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This study was an endeavor to develop a system to collect and display useful information on the quality of ambulatory care by which hospital staff could make intelligent decisions in the management of the Ambulatory Care Quality Assurance Program.

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of

Masters of Health Administration

by

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CHAPTER I

INTRODUCTION

Development of the Problem

The impetus for the study of the ambulatory care Quality Assurance Program at the US Army Medical Department Activity, Fort Belvoir, Virginia, is the collective lack of useable information by which the hospital staff can make intelligent decisions regarding the quality of ambulatory care. Repeatedly, the outcome of quality assurance (QA) related committee meetings, e.g., the Medical Care Evaluation Committee, Ambulatory Care Committee, and other quality assurance functions, was not useful because the committee was unable to identify problems. This inability to identify problems is related to the lack of information available to the committees. Although data is present, it is either not properly summarized, incomplete, or not communicated in a useful manner. Data, by definition, is not information due to the fact that it does not convey a complete picture. *Excess data generating output*

The Chief, Professional Services, has repeatedly expressed his frustration at the lack of useful quality assurance results by the committees, departments, and activities of the institution. In addition, the shortcomings of the hospital Quality Assurance Program have been noted by the Joint Commission on Accreditation of Hospitals (JCAH) on their most recent accreditation visit (June, 1981). Also, the General Accounting Office conducted a five week survey of hospital quality assurance programs and noted shortcomings highlighting the need for more information.

The increasing importance of quality assurance as evidenced by the heightened interest of regulatory agencies, both private and governmental, and the rising expectations of consumers mandates that the administrations of hospitals institute effective and efficient quality assurance programs. Major General Raymond Bishop, Commanding General, United States Army Health Services Command, specifically addressed the issue of quality assurance in troop medical clinics and health clinics within the command as being of primary interest.¹ General Bishop expressed grave concern over the quality of care provided in the outpatient setting. In order to assure that the care provided in those settings is optimal, he stressed quality assurance programs to measure the efficacy of health care. To validate his interest, General Bishop has instructed the Inspector General of Health Services Command to evaluate the quality of health care being provided in the ambulatory care settings throughout the command.

Statement of the Problem

To determine the best system for ambulatory care activities to gather information to evaluate the quality of outpatient care provided at the US Army Medical Department Activity, Fort Belvoir, Virginia.

Objectives

The objectives of this study are threefold:

1. To determine the type of information which is needed by outpatient organizations to evaluate the quality of care provided by that clinic. Concurrent with that initiative is the determination of the proper source of the needed information.

2. To develop a methodology for extracting the needed data and converting it to useful information.

3. To create a vehicle for displaying the information.

Criteria

The criteria by which the results will be evaluated against will insure that:

1. The methodology for extracting data and its conversion to information must be performed by clerical or paraprofessional personnel.

2. The source of the data must be readily available.

3. The vehicle to display the information must be standardized.

4. The information must be acceptable to the clinic/activity/department chief conducting the quality assurance program.

Assumptions

The course of this study will be guided by several factors which are assumed by the author to be true and will determine whether the study will be viable in the future. Those assumptions are:

1. The need for quality assurance activities will not diminish.

2. Clerical and paraprofessional personnel will be responsible for gathering the data, converting the data to information, and displaying the information.

3. The recommended method for gathering information will be applicable to all outpatient clinics.

Limitations

The following limitations will be utilized in evaluating this program:

1. Only high volume clinics will be used as models to analyze and develop the quality assurance activities of ambulatory care.

2. The individuals who will perform the data gathering and other tasks involved in the system will be from existing resources.

3. Additional resources will not be available to the hospital to gather the information needed to assess.

Research Methodology

In order to fulfill the objectives of the study the following research techniques will be utilized:

1. Identification of needed information.

- a. Consult appropriate literature.
- b. Interview the professional staff of the outpatient facility.

2. Identification of data sources.

a. Consult with the US Army Patient Administration Systems and Biostatistical Agency (PASBA).

b. Investigate the information locally available.

- (1) The patient Health Record/Outpatient Treatment Record.
- (2) Laboratory, radiology, and pharmacy data.
- (3) Patient representative data.
- (4) Patient Administration Division maintained data.
- (5) Uniformed Chart of Accounts data maintained by the hospital comptroller.

3. Method for extracting data.

- a. Automated systems available from PASBA.
- b. Locally maintained statistics (laboratory, radiology, and pharmacy data).
- c. Application of statistical techniques such as sampling.

- d. Use of concurrent or retrospective data collection.
- e. Establish the criteria for extracting data.
- 4. Display of data.
 - a. Analyze the nature of the data collected and determine the most appropriate type of display. Possible alternatives include:
 - (1) Descriptive statistics (mean, standard deviation, mode, etc.).
 - (2) Trending as a method to determine abnormalities.
 - (3) Tests of statistical significance (Chi-squared, T-Test, correlation).
 - b. Develop a worksheet to consolidate data.
 - c. Utilize currently available statistical packages on the hospital Hewlett-packard minicomputer design mechanism for inputting the data and producing useable information for the clinic chief.

Footnotes

¹Major General Raymond Bishop, "Keynote Address," presented at the US Army Health Services Command, Ambulatory Care Conference, Fort Sam Houston, Texas, 29 March 1982.

CHAPTER II

LITERATURE REVIEW

Introduction

Quality assurance is not a subject for debate, its time has arrived.¹ Verification of the mandate for quality assurance is widely published in federal law, national hospital accreditation standards, and Department of the Army regulations.^{2, 3, 4, 5} The impetus for quality assurance activities is two-pronged. The critical issue in assuring the quality of care provided is improvement of health status of the patient.⁶ Concurrent with the need for quality health care is the need to control the rising cost of providing health care.⁷ Although the thrust of quality assurance activities has been centered in the inpatient setting, there is an overwhelming need to carry the quality assurance banner to the ambulatory setting. The volume of patients seen in the outpatient setting is tremendous, approximately 89% of illnesses are treated in the ambulatory mode.⁸ Even though the per patient expense of outpatient care is obviously much lower than an inpatient visit, the magnitude of volume of outpatient visits necessitates an evaluation of the care provided. For every person admitted to DeWitt Army Community Hospital 57 patients are seen on an outpatient basis.⁹

Structure, Process or Outcome

With the tremendous number of outpatients being seen in an ambulatory mode the target of quality assurance programs heretofore has relied heavily on the structure of the system. Structure refers to innate characteristics of the providers (physicians, dentist., nurses, etc.), such as age, type of medical training and

degree, and practice of the physician.¹⁰ The structural approach assumes that given the proper mix of training, age, and experience a provider would fulfill the needs of the patients. The guardians of the structural system of assuring care are the members of the medical professions via state boards of licensure, medical societies at the county, state, and national level, and faculties of medical schools. The effectiveness of the structural method is questionable. The increase in malpractice lawsuits, the maldistribution of medical practitioners, and the claims of unnecessary surgery indicate that the effectiveness of the structural method is suspect.^{11, 12, 13}

The process method of quality assurance activities is centered on the events which occur during a patient encounter. The process includes the patient's history, physical findings, laboratory studies, radiographic tests, drugs prescribed, patient instructions, and/or any other intervention which might be considered necessary in treating a particular patient.¹⁴ The process has significant advantages over the structural method in that attention is focused on what occurred during the encounter, not merely how prepared the provider was for treating the patient. The effectiveness of the process review has been demonstrated in several studies. In New Mexico, a process review was used to count the inappropriate use of antibiotics. The process review was successful in reducing the frequency of inappropriate use of expensive antibiotics.¹⁵

The last method of reviewing the quality of care is the outcome method. The outcome method is concerned with the net result whether it be cure, control of disease, or symptomatic improvement. The ultimate quest of quality assurance is to improve the health status of the patient. The outcome method focuses on just

that, the health status of the patient. The structural method only certifies the initial competence of the provider and the process method only assesses the fulfillment of measurable inprocess milestones. Neither of these methods assesses the quality of the end product, the patient. The logical question then is why not use outcome as the sole measurement of quality? The answer in part is that the great majority of conditions:

- are self-limiting,
- are intimately involved with personal life style,
- are chronic conditions where a good outcome is often temporary arrest of the natural cause or restoration of some function, but is in either case dependent on nursing and social support rather than medical care,
- are conditions for which modern remedies are only partially effective,
- require short-term counseling or reassurance, often effectively practical but generally unrecorded, and
- are uncomplicated, acute infections for which antibiotics are readily prescribed.¹⁶

In addition, from 25 to 70 percent of patients coming for care are actually well or "worried well".¹⁷

The net result of the three methods of assuring quality is individually ineffective in improving the quality of care. There is a place for each of the methods in the overall quality assurance program. The structure of the health care system is well defined by the operating programs of hospitals. They include:

- a credentialing process,
- a training program, and
- an equipment and facilities upgrade program.

The process method is the foundation for the appraisal of the compliance of the professional with established patient care criteria. The existence of imperfections in the process method should be recognized by the professional body. Criticism of the process method is well documented in the literature and is well founded.^{18, 19, 20, 21} In light of the shortcomings in the process review methodology, its ability to demonstrate behaviors is critical in order to fulfill the tenets of the accreditation standards espoused by the Joint Commission on Accreditation of Hospitals.

The outcome quality of care assessment method is the optimal method but is the most difficult to define. The health status of an individual includes more than a simple physical assessment of an individual body. The World Health Organization includes in its definition of health status the "complete being" that encompasses the emotional and social as well as the physical aspect of the being.²² The wholistic movement has brought the "total man/woman" issue to the forefront and as yet this issue is not resolved.²³ In order to avoid the pitfall of attempting to define "improved health status" the basis of an ambulatory care quality assurance program would be wise to recognize the outcome aspect, and focus its efforts on the more tangible aspects of a process orientated methodology.

Implicit/Explicit Judgement

The process system can be based on a combination of implicit/explicit judgement and concurrent/retrospective data collection. The difference between explicit and implicit judgement is the pre-establishment of criteria. The implicit judgement is based solely on the personal experience and training of the individual

reviewer. The reviewer audits a medical record and determines whether the proper medical steps in diagnosis and treatment were taken based on his/her opinion of what constitutes quality care.²⁴ This method of assessing care is extremely flexible but requires a high degree of knowledge on the part of the reviewer and the results are unreliable.²⁵

The explicit review removes the judgmental situations which are incorporated in the implicit system. The explicit review is based on a set of written standards established by appropriate providers. This system increases the reliability of the review and allows paraprofessional and clerical personnel to perform the review.²⁶

A study conducted by Johns Hopkins physicians of 296 patients at Baltimore City Hospital used both the implicit and explicit methods for assessing the quality of care provided.²⁷ The diagnosis for these patients was either hypertension, urinary tract infection, or gastric/duodenal ulcer. The 296 records were reviewed using implicit judgement of the process and the result was that 23 percent of the charts were acceptable. The same charts were then reviewed against explicit criteria, and the result was that one percent of the records met the acceptability standards.

This study points up the wide variation which can exist between implicit and explicit judgement in reviewing medical processes. This variation, coupled with the problems of unreliability and expense associated with implicit judgement indicates that explicit judgement is the method of choice.

Prospective, Retrospective, and Concurrent Assessment

The quality assurance standard of the Joint Commission on Accreditation of Hospitals states that "once an actual or suspected problem is identified, it may be

assessed prospectively, concurrently, or retrospectively."²⁸ In the ambulatory setting the collection of data needed to conduct reviews or audits of patients encountered is not systematic and centralized as is the case in inpatient care. This lack of a systematic data collection effort severely limits the ability to retrospectively analyze care. Because over 1 billion outpatient visits occur annually in the United States, a system for centrally collecting data is not imminent.²⁹

The prevalence of quality assurance studies documented in the literature reflects computer assisted data collection techniques.^{30, 31, 32} The billing function in private practice provides a natural index for identifying patient diagnosis and treatment data. In those practices with automated billing, the practitioners capitalize on the captured data to identify patients with a specific diagnosis or an identifiable treatment. The Harvard Community Health Plan uses a computer stored ambulatory record (COSTAR) system to record patient data. This system significantly improves the efficiency of the plan's quality assurance efforts.³³ The Army Medical Department is currently testing the COSTAR system at Fort Ord, California.³⁴ The results of the test are not completed and possible proliferation of the COSTAR system through the military hospital system is uncertain.

Without the aid of computerized systems for records retrieval, the retrospective audit technique is not a viable method for conducting quality assurance studies. The concurrent audit procedure, which is based on the premise that the chart is reviewed shortly following the patient encounter, is a plausible alternative to retrospective review. The term shortly is used to describe the time

lapse between encounter and review because the actual time can vary from minutes to days. Concurrent review is used to alleviate the personnel cost associated with records retrieval and to cut the time to complete a study.³⁵ The effectiveness of concurrent review is not only in the retrieval of records but also in corrective patient intervention.

The Automated Military Outpatient System has been used for over five years in Army hospitals to treat large numbers of outpatients by utilizing paraprofessional personnel to treat minor illnesses. Incorporated in that program is a mandatory concurrent review mechanism.³⁶ This review detects general trends in the quality of care provided and specific treatment shortcomings can be rectified by recalling the patient to the clinic. The recall of patients is not practical in a retrospective review since a lengthy time lapse between treatment and the time of review usually has occurred. The advantages of ease of record retrieval, recall of patients, and prompt correction of staff deficiencies denote the concurrent review techniques as superior to retrospective reviews in the outpatient setting.

In addition to the retrospective and concurrent assessment techniques, the JCAH refers to prospective assessments. The prospective aspects of quality assurance deals with both the structure of patient encounter and pre-establishment of valid assessment criteria. The structural system has been discussed previously as well as the development of explicit criteria. These two factors are important in a quality assurance program but without the concurrent or retrospective review the

effectiveness of the prospective aspects of the program cannot be validated. The prospective methodology cannot stand alone; it must be incorporated into the concurrent or retrospective analysis.

Conclusion

The need for quality assurance programs is not going to vanish. The thrust of outpatient quality assurance should be on the process of the patient encounter. While recognizing the importance of the structure and outcome portions of the ambulatory care system, the practitioners should insure that the process which they can directly affect is optimal. The evaluation of the care provided must be based on clinically valid criteria. Implicit criteria requires an extremely competent reviewer and the reliability of the assessment process is questionable. Explicit criteria enables a lesser trained individual to perform audits and achieve superior assessment results.

In the outpatient setting, the inability to efficiently and quickly retrieve patient charts mandates the use of concurrent audit techniques. The ability to promptly intervene in a treatment is a significant positive side effect of the concurrent audit.

In summary, the outpatient quality assurance program needs to focus on the process of the patient encounter, using explicit criteria on a concurrent basis. These principles are not applicable in all situations but any individual conducting a study would be wise to consider their application.

Footnotes

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CHAPTER III

THE PRESENT AMBULATORY CARE QUALITY ASSURANCE PROGRAM

General Description of Outpatient Services at DeWitt Army Community Hospital

DeWitt Army Community Hospital is located on Fort Belvoir, Virginia in a geographical region which encompasses Virginia, West Virginia, and a portion of the Washington, D.C. metropolitan area. It is a 120 bed hospital which provides primary care to a population of approximately 85,000 beneficiaries. The hospital services include: family practice, general surgery, obstetrics and gynecology, orthopedics, neurology, outpatient psychiatry and social work, pediatrics, dermatology, physical therapy, ophthalmology and optometry, internal medicine, and emergency medicine. The hospital has one residency program in family practice with eighteen residents participating. The average patient census is 97 patients per day and an average of three births occur daily. There are currently 82 physicians assigned to the institution.

The hospital operates 37 separate clinics which together treated 437,826 patients in fiscal year 1981.¹ These clinics vary greatly in location, size, and type of patients seen. The Adolescent Clinic cared for 1,303 teenagers in fiscal year 1981 and the Family Practice Clinic cared for over 46,000 patients in the same time period. In addition to the wide variation in number of patients seen, the clinics also vary greatly in location. Many of the clinics are based in the confines of the main hospital, but some clinics, such as Fort A.P. Hill Health Clinic, 45 miles south of Fort Belvoir, are located off the installation. It is therefore difficult to identify a typical clinic.

The responsibility for the operation of the clinics within the hospital is divided (see Figure 1). The Department of Medicine is responsible for those clinics which are subordinate to the department such as: pediatrics, neurology, dermatology, internal medicine, and cardiology. The Chief of Surgery is responsible for typical surgical specialties: general surgery, obstetrics and gynecology, orthopedics, ophthalmology and optometry, podiatry, and urology. The Department of Family Practice is responsible for not only the family practice clinic, but also the emergency room, physical examination clinic, and the troop health clinics. The troop health clinics are included under the Chief of Family Practice because the physicians operating these clinics are family practitioners. Additionally, the Chief of Family Practice is responsible for the off post health clinics. To accommodate this increased responsibility, the Chief of Family Practice has the collateral duty of Director of Primary Care and Community Medicine.

Outside of the three major departments, there are still outpatient clinics which operate under a variety of names. The Occupational Health Clinic is supervised by an autonomous occupational health physician. The Chief of the Community Mental Health Activity is responsible for the operation of a combined psychiatry/psychology/social work clinic. To further complicate the situation, all nursing personnel who staff the clinics (registered nurses, licensed practical nurses, corpsmen, and operating room technicians) are supervised and controlled by the Chief, Department of Nursing.

The purpose of this discussion is to acquaint the reader with some of the variables involved in discussing the ambulatory care facilities at DeWitt Army

CLINIC ORGANIZATIONAL CHART

HOSPITAL
COMMANDER

CHIEF OF
PROFESSIONAL SERVICES

CHIEF OF
FAMILY PRACTICE *

CHIEF OF
PREVENTIVE MEDICINE

OTHER

CHIEF OF
SURGERY

CHIEF OF
MEDICINE

1. Internal Medicine	1. General Surgery	1. Family Practice (Main Hospital)	1. Well Baby	1. Nutrition
2. Allergy	2. Ophthalmology	2. South Post Health** Clinic	2. Audiology	2. Psychiatry
3. Cardiology	3. Ear, Nose, Throat	3. North Post Health** Clinic	3. Occupational Health	
4. Diabetic	4. Urology	4. Davison Army Airfield Clinic **	4. Community Health Nursing	
5. Hypertension	5. Gynecology and Obstetrics	5. Acute Minor Illness Clinic		
6. Dermatology	6. Orthopedics	6. Physical Examination		
7. Neurology	7. Orthopedic Appliance Clinic	7. Emergency Treatment Clinic		
8. Pediatrics	8. Podiatry	8. Vint Hill Farms Health Clinic		
9. Adolescent	9. Optometry	9. Fort A. P. Hill Health Clinic		

*Chief of Family Practice is also the Director of Primary Care and Community Medicine.

**These clinics are troop medical clinics in the mornings and family practice clinics in the afternoons.

FIGURE 1

Community Hospital. The clinics are dispersed, the supervision of the clinics is not centralized, and the type of patients seen at each of the clinics depends upon the speciality of that clinic.

Current Ambulatory Quality Assurance Activities

The current outpatient quality assurance program at DeWitt is difficult to define since there is a complete lack of direction and organization to the process. When approached on the subject, the personnel in the clinics state that either it is not done or some type of medical chart review is being conducted. Those doing chart reviews have no documentation of what was done, what was found, or what action was taken to correct deficiencies noted. The Joint Commission on Accreditation of Hospitals' basic ground rules on quality assurance, listed below, state that a QA program must:

1. Be comprehensive,
2. Be integrated,
3. Have problem prioritization,
4. Be cost effective,
5. Be reappraised annually,
6. Be problem focused,
7. Have clinically valid criteria,
8. Be documented, and
9. Have follow-up actions.

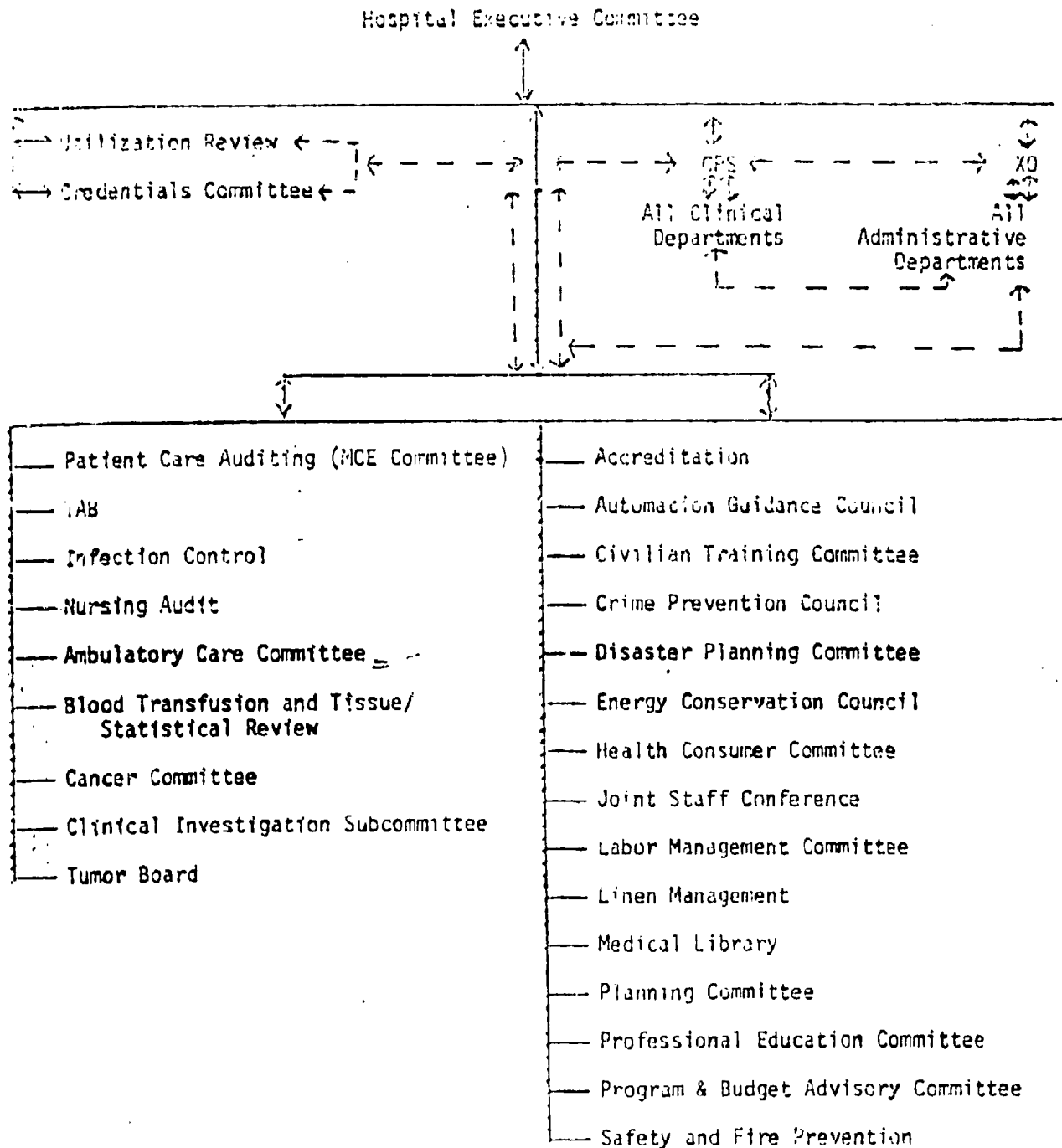
These nine ground rules have not been considered in performing most of the quality assurance work at the hospital. There is an exception to the generally bleak outpatient quality assurance picture at DeWitt, the Department of Family Practice. However, the efforts in that department are a recent innovation.

The management of the hospital recognized the need to strengthen the quality assurance program in the fall of 1980. The impetus for this concern was an upcoming accreditation visit by the Joint Commission of Accreditation of Hospitals scheduled for April of 1982. The administrative resident at that time was directed to formulate a new QA plan which would fulfill the January, 1981 JCAH standards on quality assurance. To that end a revised plan was developed (Appendix A). The plan encompassed all the facets of a model plan which the JCAH outlined in the Manual for Accreditation of Hospitals, dated 1981. The organizational structure was activated prior to the accreditation and quality assurance projects began to flow.

Subsequent to the accreditation visit, the flow of problems slowed to a trickle. The reason for this can be linked to several key factors. First the plan, although technically correct, was not a tool which the practitioners could use as a ready reference. The format for submitting problems (DA Form 2496, Appendix B) required a great deal of information, and was cluttered. The chart which described the flow of information (Figure 2) did not present a clear picture of the quality assurance process.

Another reason for the failure of the plan can be traced to the management of the program, the Hospital Executive Committee. This committee is composed of the Hospital Commander, the Executive Officer, the Chief of Professional Services, and the Chief, Department of Nursing. The committee was to serve as the Quality Assurance Committee for the institution. It became quickly obvious that the QA activities of the hospital were not being properly monitored by the Executive Committee. The jolt which led to that realization was the reoccurring

FLOW OF INFORMATION OF COMMITTEES
(Effective 1 January 1981)



← - - - - - → Formal Flow
← - - - - - → Informal Flow

APPENDIX D

Figure 2

comment on all the committee minutes reviewed of, "No quality assurance problems noted." This resulted in a decision that another structure had to be developed to oversee the QA program.

In order to reevaluate the process to establish a more viable structure, meetings with the hospital leadership were conducted. The results of those meetings were:

1. The medical and administrative staff did not want to participate in another committee.
2. The focus of the QA program would be at the departmental level, with the department chief having the decentralized responsibility to conduct the QA program at his/her level.

In order to include the recommendations of the majority, the plan was rewritten (Appendix C). The revision included the formation of a Quality Assurance Coordinating Committee to oversee the QA activities of the hospital. To reduce time demands on the staff of the hospital, the membership was limited to:

1. Chief, Professional Services (Chairman),
2. Department of Nursing QA Coordinator,
3. Chief, Inpatient Branch, Clinical Support Division,
4. Risk Manager, and
5. Administrative Resident.

The issue of departmental centered QA activities was included in the plan by specifically challenging the departments to develop a QA plan for their organization and requiring reports on their activities.

The revised plan simplified the reporting procedures and attempted to place the monitoring responsibility on a committee (the QA Coordinating Committee) better suited to perform the detailed supervision needed.

The quality assurance activities performed in the hospital's outpatient activities are minimal. The Department of Family Practice is the current pacesetter in performing outpatient quality assurance studies. This department has not only the family practice clinic under its control, but is also responsible for the troop health clinics, health clinics at Fort A.P. Hill and Vint Hill Farms Station, the emergency treatment room, the acute minor illness clinic, and the flight surgeons' clinic.

The Department of Family Practice conducted a study in the emergency room on corneal abrasions. The results of this study (Appendix D) revealed a basic understanding of audit procedures, but the format did not identify individual providers whose practice was unacceptable. Although incomplete, the study resulted in new protocols and training sessions to correct shortcomings. A follow-up study (Appendix E) showed some improvement in the quality of care provided for that specific diagnosis.

The reason for the family practice department's QA program is not entirely self-motivated by the department's personnel. The department is responsible for an accredited residency program and in order to fulfill the accreditation standards the department must have a viable QA program. The family practice QA plan does not directly address the monitoring of individual physician practice. The identification of deficiencies on a departmental level may be inappropriate if one or two practitioners are responsible for the majority of the deficiencies. The

monitoring of the quality of care provided should extend to the individual physician. This is particularly true in a teaching program if a resident's ability is to be objectively assessed.

Beyond the family practice department's efforts, the efforts of the hospital are not very effective. The quality of care rendered in the Acute Minor Illness Clinic (AMIC) is required to be monitored by the program document which prescribes daily audits of the enlisted personnel who are physician extenders.² This audit is to insure that the extenders are complying with the algorithms which prescribe diagnostic and treatment regimens for an array of common diagnoses and patient physical complaints. This mandatory review of 10% of the cases seen daily is excellent for insuring program maintenance but does not evaluate the efficacy of care other than that which is prescribed in the extenders manual.

The Ambulatory Care Committee, comprised of providers of ambulatory care, conducts semi-annual audits of outpatient care as mandated by Standard VI of the JCAH. The results of those audits have not been widely disseminated or integrated into other quality assurance activities in the institution.

The Chief of Emergency Services, in conjunction with the Chief of Pediatric Service, has instituted a daily review of all pediatric patients seen in the emergency room during the previous evening and night. The thrust of this review is to survey the appropriateness of care provided by the emergency room staff. This daily audit allows the pediatric staff to contact the patients if they feel that additional care needs to be rendered. The shortcoming with the system is that a

methodology for trending problems which are either generally applicable to all providers or are attributable to an individual provider is needed. This lack of feedback invites a constant repetition of the problems.

The Medical Care Evaluation Committee of the hospital is responsible for a number of monitoring activities associated with quality assurance and utilization review. Specific to outpatient care is a chart review process whereby a random sample of approximately 30 records is provided to each of the major departments (surgery, medicine and family) as well as pediatrics, obstetrics and gynecology service. The chief of each of these departments/services conducts a review of the last visit annotated in the patient's record. There is no criteria for commonality of the record except that the last visit must be in the service within the preceding ninety days. The chief reviews the chart based upon his knowledge and reports findings to the committee in a round table fashion. The findings are typically negative. A review of the committee minutes revealed a complete lack of action resulting from this type of audit.

Summary of Current Quality Assurance Activities

The current outpatient quality assurance process at DeWitt Army Community Hospital is not coordinated. There are clusters of outpatient QA activities performed, but their results are not intergrated into a hospital wide program. The information gained by one study is not shared with other providers in the institution. The institution lacks a sense of direction in the assurance of outpatient care.

The lack of direction is due in part to the inexperience of the professional staff in performing QA studies. The retrospection audits performed during the

1970's were conducted primarily by medical records technicians and were basically ineffective. The idea of starting an audit process for outpatient care is unwelcomed by many physicians and this feeling, coupled with a general lack of knowledge of quality assurance techniques, e. g., concurrent audits, generic audits, and process versus outcome audits, presents a significant challenge to the hospital leadership.

The fundamental problem with the QA program is a lack of understanding by the medical staff of what QA is. The nonproductive chart audits conducted by the Medical Care Evaluation Committee typifies the utter futility of the current QA program. This paper will discuss the primary responsibilities of the hospital staff in the QA program. They are:

1. Problem identification,
2. Criteria development,
3. Documentation, and
4. Follow-up.

The next chapter will address each of the responsibilities.

Footnotes

¹Joint Commission on Accreditation of Hospitals, Manual for Accreditation of Hospitals, (Chicago, 1982).

²US Army Health Services Command, Ambulatory Patient Care Model #13, dated August, 1977, Fort Sam Houston, Texas.

CHAPTER IV

PROPOSED PROGRAM

As discussed in the preceding chapter, the professional staff does not desire to participate in an additional committee. The QA Coordinating Committee monitors the actions of the existing committee structure and departmental level QA activities. In order to assist department chiefs and the committee chairpersons in fulfilling their QA responsibilities, a well defined program must exist. The program must facilitate meaningful actions with a minimal amount of professional time expenditure. This chapter is designed to outline a program so that individuals responsible for QA actions can fulfill the intent of the JCAH QA standards.

Program Structure

The process of a QA program includes a number of requirements to insure thoroughness and effectiveness. As outlined by the JCAH,¹ a QA program must:

1. Be comprehensive,
2. Be intergrated,
3. Have problem prioritization,
4. Be cost effective,
5. Be reappraised annually,
6. Be problem focused,
7. Have clinically valid criteria,
8. Be documented and,
9. Have follow-up actions.

In addition to these nine requirements, the JCAH specifies various audits/reviews for the hospital services. These 37 required QA actions are listed in Appendix C.

The revised hospital QA plan (Appendix C) includes as Annex A, a chart of the QA organization (see Figure 3, next page). The first five requirements can be viewed as a responsibility shared by the QA Coordinating Committee and the Executive Committee. The last four issues are of primary concern to the reporting activities.

The program outlined in the revised hospital QA plan (Appendix C) provides the basic framework for a viable program. The major concern is that quality assurance studies have not been initiated at the reporting level. Only in anticipation of the accreditation visit by the Joint Commission on Accreditation of Hospitals did the flow of quality assurance studies begin. Since the time of the survey (June, 1981) to the present only five quality assurance studies have been instituted.² Of the five studies, three are applicable to the outpatient setting.

To have an effective ambulatory care quality assurance program, emphasis must be placed on the four primary responsibilities of the report activities: 1) problem identification, 2) clinically valid criteria, 3) documentation, and 4) follow-up.

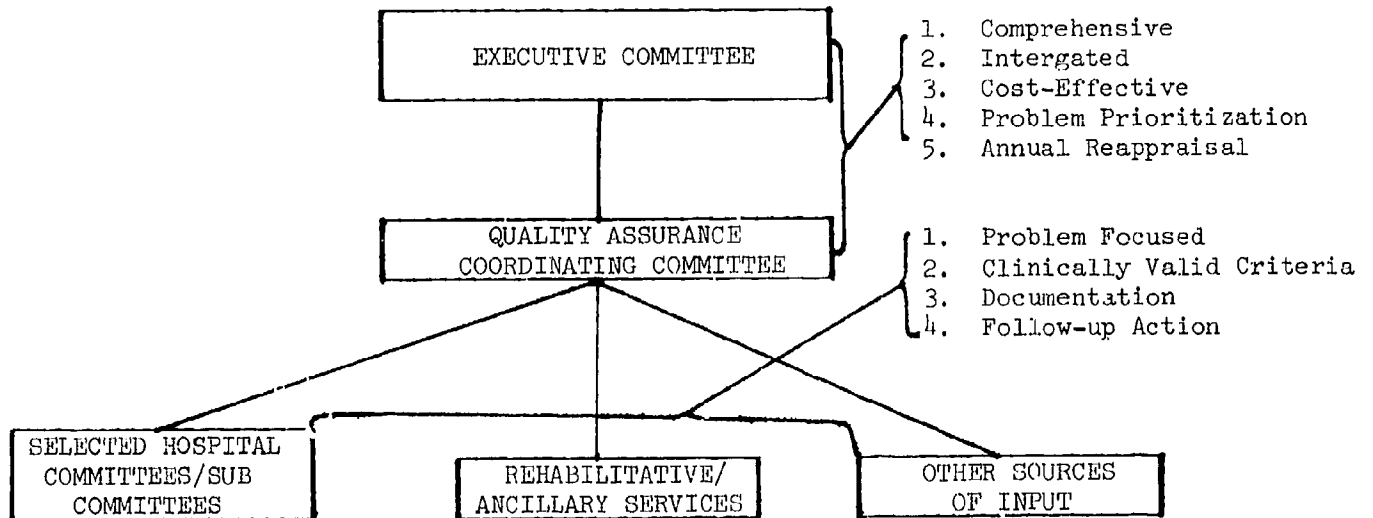
Problem Identification

The literature constantly refers to an elaborate listing of sources for identification of quality assurance problems.^{3, 4} The list encompasses:

ANNEX A

I. Organization

RESPONSIBILITY FOR QA REQUIREMENTS



II. Composition of QA Coordinating Committee

Chief, Professional Services (CPS)	Chairman
Risk Manager	Member
Nursing QA Coordinator	Member
Chief, Inpatient Care Branch	Member
Administrative Resident	Member
Secretary to the CPS	Recorder

FIGURE 3

1. Utilization Review Data,
2. Morbidity Review,
3. Mortality Review,
4. Tissue Review,
5. Antibiotic Committee Results,
6. Therapeutics Agents Board Results,
7. Blood Utilization Committee,
8. Infectious Disease Committee,
9. Unusual Occurrence Report,
10. Safety Committee,
11. Outside Audit Agencies, e.g., JCAH, Army Audit Agency, General Accounting Office, and
12. Credentials Committee.

Interviews with the professional staff of the hospital reveal that many of the above listed sources of information are not being used to formulate quality assurance studies.^{5, 6} A reason for this is a lack of demand to conduct quality assurance studies.

For example, a review of minutes of the tissue, infectious disease control, blood utilization, and morbidity committees shows that a standard agenda is followed and results are predictable. Variations noted in the discussion are explained and typically no recommendations are made concerning problems noted. In order to correct this situation, guidance to the committee chairpersons mandating problem identification is needed. The Chief, Emergency Medical Services, stated that it would be helpful in formulating studies to have more

information from the laboratory on problems emanating from his department.⁷ A follow-up interview with Major Ridenour, Assistant Chief, Department of Pathology, established that it is possible to identify trends in apparent inappropriate use of laboratory tests.⁸ This failure in communications is due to the lack of a concentrated effort on the part of various departments and services to surface problems.

The professional staff of the outpatient clinics requires information not only on what types of patients they treat but also on how the treatment of patients affects other activities within the hospital. In an effort to correct this situation, the revised hospital quality assurance (Appendix C) has placed an emphasis on departmental/separate service quality assurance activities. By requiring separate services and departments to report their quality assurance efforts monthly to the Quality Assurance Coordinating Committee, a portal for expression of both intra and interdepartmental problems is opened. The identification of a problem in other services via the interdepartmental problem identification format leads to increased departmental interaction. A collegiality must exist among staff members to effectively deal with these types of problems. Heretofore, waiting for staff members to voluntarily identify problems has not resulted in any action. The author noted that the majority of interdepartmental action arose from possibly disastrous incidents. Responses are normally hasty and although the results may be appropriate, waiting for a crisis to identify a problem is not consistent with modern management practices.

In addition to problems identified by committees, services or departments, there are other sources of information available to identify problems. Dr. Stanley

Skillicorn in his book, Quality and Accountability, elaborates on the need to identify problems from both official and unofficial sources. The official sources are comprised of necessary reports, statistical summaries, and minutes of meetings. Although these documents include many important facts which pinpoint quality assurance problems, the institution must recognize unofficial information as an important source of problem identification.

The problem with unofficial information is capturing it. At some point an individual must locate the problem and communicate the concern to an individual who will act on it. Verbalizing the problem is not adequate. At some juncture the unofficial information needs to be transformed into writing, making it official. At the present time patient complaints are transmitted to the patient representative via spoken word or in writing. In either case the complaint is eventually recorded on a Concerned Care Comment (Appendix F).

The complaints are handled on an individual basis with a written reply sent to the patient. The total number of complaints is catagorized monthly and used as the basis for a monthly patient representative report (Appendix G). The report is reviewed by the hospital staff and the resultant action is sporadic. Changes resulting from the report have been made in patient waiting times in the emergency treatment room and pharmacy. Also, several indepth studies of the central appointment system have been conducted. The concerns patients convey are acted upon individually and in a number of cases have produced changes. Although improvement has occurred, the system could be more productive.

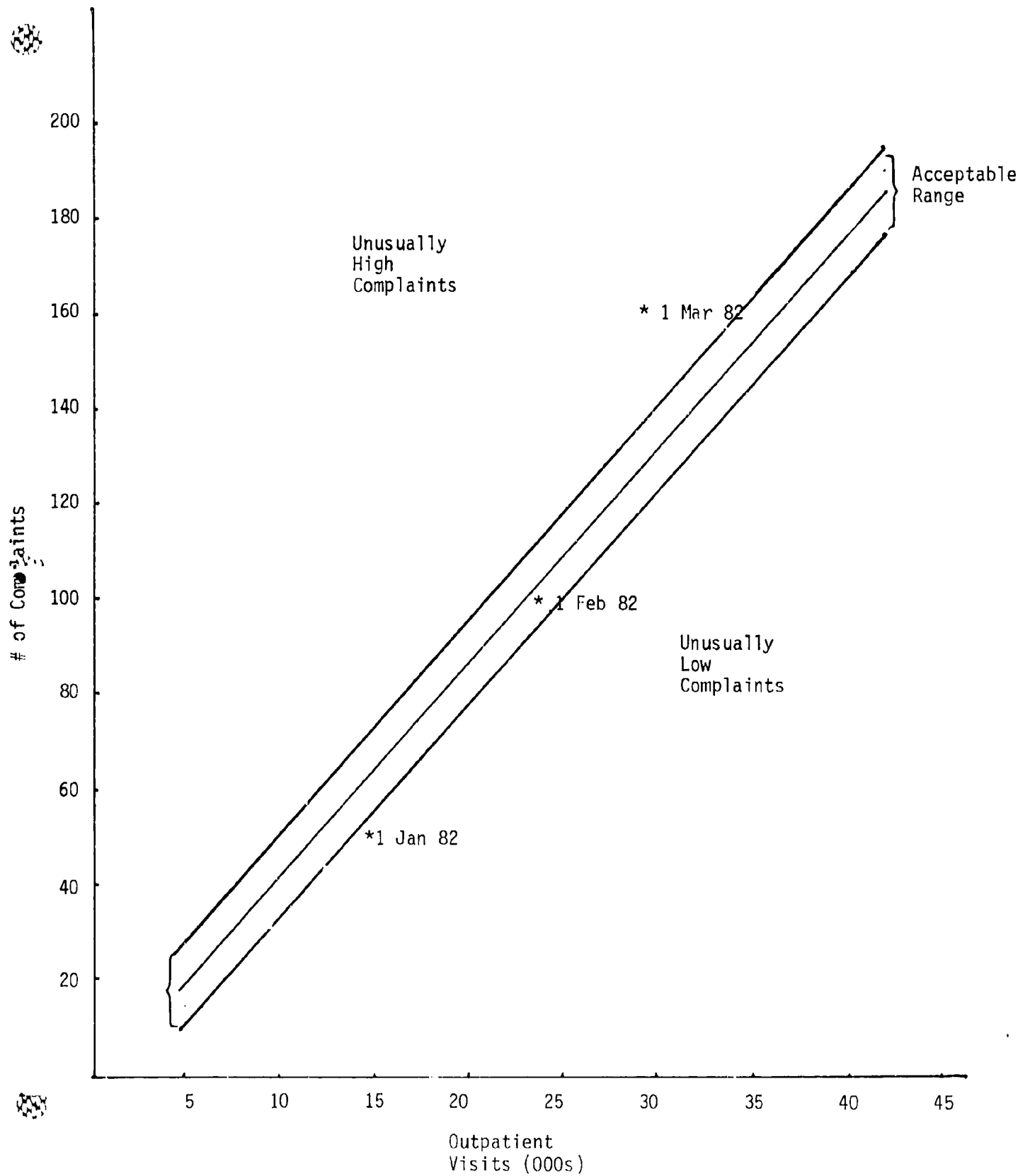
The format of the current patient representative report is typical of many of the documents which convey hospital status. The infectious disease report and

unusual occurrence report are other quality of care indicators that can be used more effectively in problem identification. These reports provide a point in time status of the indicator, e.g., the number of patient complaints during the previous month. The actual number would be more meaningful if there was a basis of comparison. An example is the patient complaints viewed as a function of the total outpatient visits. By recovering historical data regarding the number of outpatient visits and the complaints by month, a trend line can be developed.

The concept of trending can be applied to any quality of care indicator which can be correlated to an independent variable. Possibilities include medication errors per inpatient days, radiographic retakes per total radiographic procedures, or post operative infections per total episodes of surgery. While developing a trend line, prediction intervals can also be determined. These intervals are a range of values from which a band of expected values can be developed. By graphing the trending line and the band of expected values, the analyst has an effective tool to display reporting statistics. An example of such a graph is on the following page (Figure 4). By utilizing trending as a management tool, the quality assurance reviewing officials can concentrate on pinpointing sources of identified abnormalities rather than deciphering the relevance of the reported information.

The patient advocate gives the patient a voice in formulating policy change but the staff lacks a similar conduit to express concerns. To rectify this situation, a system for individual expression of possible quality assurance problems needs to be defined. The form included in the revised hospital quality assurance plan (Appendix H), MEDDAC Form 522, Quality Assurance Program Problem

TRENDING



Outpatient
Visits (000s)
(Figure 4)

Assessment Worksheet, has the potential to allow individual initiation of problem identification. The solicitation of individual initiatives needs the support of the hospital leadership. A non-retribution policy needs to be extended to those who step forward to reveal a problem. An open invitation to all staff members to provide input to the program should uncover potential problems. The handling of problems requires tact on the part of the quality assurance chairman. Positive reinforcement of those who contribute, no matter how mundane the subject, should be the tone.

If the situation arises whereby the department/committee level QA activities are unable to identify problems from any of the sources already discussed then the activity should take actions to discover problems. Medical records auditing is a viable technique in detecting QA problems. A review of medical records can reveal problems which might go undetected. A logical approach would be to review selected charts based on prevalence of either a diagnosis or a medical complaint.

To determine the most prevalent diagnosis/chief complaint, a survey was conducted for a one week period in four large outpatient activities. The activities were: (1) Obstetrics and Gynecology Clinic, (2) Acute Minor Illness Clinic, (3) South Post Health Clinic, and (4) Family Practice Clinic. These clinics were selected because they represent a cross section of the patient population treated.

The survey document (Appendix I) required the clinic personnel to categorize and record the chief complaint and diagnosis of patients seen. The tabulation of the data provided the clinic chief an assessment of the variety of ailments and diagnoses treated in that particular setting. The results of the survey are depicted in Appendices I.1, I.2, I.3, and I.4.

From this information a plan can be developed for performing studies to evaluate the quality of care provided based on the prevalence of the diagnosis/chief complaint. The rank-order assessment of diagnosis/chief complaint provides the clinicians with a logical basis to formulate a QA plan in the absence of other stimuli.

Carrying the survey of the clinics to all thirty-seven clinics in the hospital furnishes the institution with a snapshot of the types of complaints and diagnoses seen by the hospital on the aggregate. Referring to the JCAH standard on quality assurance, hospital-wide priorities are required.⁹ A compilation of total number of patients seen for a specific diagnosis in all clinics supplies a basis for decision making on assignment of those priorities.

Clinically Valid Criteria

The development of criteria is fundamental to the quality assurance process. An objective of this study is to enable paraprofessional personnel to perform the bulk of the audit process. In order for this goal to be achieved, the development of explicit audit criteria must be accomplished. Discussions with various clinic chiefs did not produce a consensus in this area. The clinics with fulltime hospital staff assigned agree that paraprofessional personnel can perform chart audits with certain reasonable limitations. However, in the troop clinics, the professional staff conducts the audit process because of constant personnel turnover problems.¹⁰

Even in those clinics which have the paraprofessional staff available to conduct chart audits, the professionals directing the study should insure that the paraprofessionals understand the audit criteria and have a point of contact for

resolution of problems. The physicians who establish the criteria need to recognize the possibility of exceptions and have those charts which do not fit the mold referred to a professional for resolution.

Documentation

The documentation of QA activities is critical in the accreditation process. The JCAH survey team is only able to base its decision on the effectiveness of a quality assurance program on the files and records available. The documentation phase represents a sizable investment of manpower. In documenting a QA study, four separate subjects must be addressed:

1. Identification of information sources,
2. Methods of capturing information,
3. Data manipulation, and
4. Conclusion development based on data analysis.

A discussion of each follows.

Identification of Information Sources

The discussion with the clinicians in the outpatient setting reveals a need for more complete information to assess the quality of care provided. Identification of information sources is the next order of business. A source of information is the Patient Administration System and Biostatistical Agency, (PASBA) US Army Health Services Command, Fort Sam Houston, Texas. The PASBA is the single manager for all automated biostatistical information for the US Army. This organization compiles a tremendous volume of information on patients treated in Army hospitals. However, a discussion with Lieutenant Colonel Arthur Badgett, Chief, Biostatistical Division of the agency, revealed that the vast majority of the

information captured is on patients admitted to the hospital.¹¹ The only data available on outpatients is the number of clinic visits and the category of beneficiary, e.g., active duty, dependent of active duty, retiree, etc. The data available at the PASBA is also locally available and does not appear to be helpful.

LTC Badgett recognized the lack of automated information as a problem in monitoring quality assurance. Currently, experiments are being conducted at various Army hospitals to determine if it will be feasible in the future to capture outpatient treatment data. The high volume of outpatient visits within the Army makes this task extremely difficult. LTC Badgett's prognosis for automated support in outpatient services is not optimistic; an automated system is at least five years in the future. Obviously, the quality assurance program cannot wait for automated data collection.

Without support from the PASBA the hospital will have to rely on locally available data. The heart of the hospital data collection is the Patient Administration Division. This information source has the responsibility for maintenance of all outpatient medical records of patients treated at the hospital. Currently, the division is maintaining in excess of 75,000 outpatient records.¹² Army outpatient treatment records are kept in a chronological sequence, the most recent encounter is the last entry in the record and is the top document in the file. The size of the record depends on the number of times the patient is treated. The record can be perpetual and the same record may contain forty years worth of data. The only time an outpatient treatment record is retired is when the patient has not been seen within the last three years. Even if the record is retired, it is forwarded to the records storage area in St. Louis, Illinois and held for no less than

25 years.¹³ The outpatient medical record is the single most valuable source of information for evaluation of quality of care in the institution. The evaluation is determined from the notes made by the provider in conjunction with the results of tests performed. Since the completeness of the record is a key factor considered by the Joint Commission, the record should also be the primary focus of local quality assurance activities.

The outpatient medical record contains many different types of data. The most common elements of the outpatient record include laboratory results, x-ray results, copies of physical examinations, summaries of inpatient episodes, and narrative descriptions of outpatient visits. The quality of the record depends on the individuals who contribute to the body of the record. The laboratory and other departments are responsible for insuring that copies of all tests are forwarded to the outpatient records room for posting to the record. Herein lies a tremendous problem. In order to post results, the record must be in the records room. A complete record depends upon all the steps or stages of the process being in coordination; if any one of the components fails, the result is an incomplete record.

The laboratory, pharmacy and radiology departments are additional information sources which maintain individual records of their portion of a patient encounter. Individual copies of each laboratory test and x-ray examination are maintained by the Department of Pathology and the Department of Radiology. The pharmacy maintains copies of all prescriptions filled in that service. These copies provide the chief of each service a key to assessing the quality of services and the appropriateness of requested tests or prescriptions.

The Patient Administration Division, as mentioned earlier, maintains the medical records for patients treated at the hospital. Because of its responsibility to post all information to the record, the Patient Administration Division is most capable of assessing the status of the composition of the record.

The biggest issue in assessing outpatient care is the unavailability of the record which can be attributed to a variety of problems. There are problems with individual patients maintaining their own records, clinics not promptly returning records, and records being misplaced. Any one of these situations can seriously affect the ability to conduct audits and/or studies. In order to have a viable program, the Patient Administration Division needs to support the audit procedures. The most important data the division provides is on the administrative actions required to maintain the complete outpatient health record. Specific data should include time required for clinics to return records after a patient appointment, percentage of records not maintained in the outpatient records room, total number of test results for which a medical record has to be constructed, and other measurements of completeness of the outpatient medical record.

Another information source, the Uniform Chart of Accounts Branch of the Comptroller Division, amasses a tremendous amount of data regarding the operation of the hospital. The problem with the data compiled is that it is not useful to the management of the hospital in decision making.¹⁴ Although the results of the sophisticated step down cost apportionment methodology do not provide a usable end product, the data base upon which the system is based is a handy resource to the organization. With very little effort the Uniform Chart of

Accounts Branch can provide an extract of almost any type of data a manager needs to evaluate the cost of operating a service and also the amount of workload generated by that service.

It is inappropriate to expect QA problems to be identified by the Uniform Chart of Accounts Office. The data bank should be used as a resource in confirming, analyzing and evaluating problems which involve resources. By soliciting historical data from the Uniform Chart of Accounts Office, the person conducting the study may be able to gather more complete information upon which to judge his/her decision.

Methods of Capturing Information

Capturing data for the outpatient quality assurance program must be accomplished in a manual mode. The hospital is totally lacking in automation in the primary care setting. The lack of automation does not mean that data is unobtainable. To determine the optimal point during the patient encounter to collect the data, some preliminary decisions must be made. The subject or focus of the study needs to be determined. The focus may be on a diagnosis, a chief medical complaint, a category of patient (age, sex, race), a particular laboratory test, an administrative procedure, or a patient's diet. After the subject is selected, the next decision is what will be measured, counted, examined, or compared by the data collector. This needs to be clearly defined to insure consistent results.

The volume of data to be collected must also be considered. The high cost of data collection warrants the use of sampling techniques (see Appendix J for further discussion).

When the optimal data collection point is determined, the development of data collection forms facilitates the recording of information. In the audit setting certain information must be recorded for analysis. This information includes:

1. Provider identification.
2. Criteria identification.
3. Patient identification. In concurrent audits, identifying the patient whose record is being audited is critical. One of the primary advantages of concurrent audits is the potential to quickly identify deficient patient care and to take corrective actions to ameliorate the situation. Therefore, the identity of each audited record is important.

4. Criteria evaluation findings. The audit results should be recorded so that a reviewing official can identify the source of problems. This involves the results of the provider's performance in each criteria, the provider's aggregate performance, and the review of compliance based on individual criteria and composite criteria.

The individual provider audit matrix (Figure 5) is an example of a standard format for the collection of data. The auditor can record the required information described previously. The space allotted for the provider identification should be coded to protect the anonymity of the provider and the key to the code should be safeguarded. The patient identification data needs to include the data that is essential to retrieve the record:

- beneficiary code,
- last four digits of the social security account number, and
- the patient's last name.

PROVIDER CODE¹

CRITERIA

PATIENT I.D. 2

[illegible]

1. Use identification code, do not use name
2. Patient identification consist of: beneficiary-code, last four digits of SSAN, last name-

Example: 30,1234,Jones.

FIGURE 5

This data is contained on the medical records folder and is essential for the medical records branch to retrieve the chart. The column on the left side of the form enables the auditor to list the audit criteria.

The remainder of the matrix allows the auditor to record the outcome of each evaluation of the patient's chart with respect to the criteria. The scoring system for the criteria depends on the desires of the audit protocols or auditor's preference. A simple scoring system is 1 = compliance, 0 = noncompliance. This basic scoring system can be expanded to meet the desires of the auditor. For example, in the corneal abrasion study discussed earlier, the values assigned were: 1 = full compliance, $\frac{1}{2}$ = partial compliance, 0 = noncompliance. The scoring system decided upon should be used consistently in the initial and any follow-up studies.

At the completion of the audit, the individual provider audit results are totaled. The totals for the rows and columns should be identical and those values should be entered in the appropriate block in the bottom right portion of the worksheet. At this point the auditor can review the performance of the individual provider by either criteria or individual patient results. The statistical tests can be employed to analyze the results.

When more than one provider has been audited, the worksheet shown on the following page (Figure 6, Summary Audit Matrix) enables the totals of the individual provider's worksheets to be recorded. To complete this worksheet, the auditor transfers the information on the individual worksheet to the summary matrix. The provider code block is completed with the same provider code as used on the individual worksheets. The actual and possible figures for each criteria are

SUMMARY AUDIT MATRIX

* Use identification code, do not use name

FIGURE 6

transcribed to the summary matrix. The compliance percentage can be entered instead of the actual/possible figures if each of the providers has an equal number of records audited. The probability of having equal possible values for each provider is minimal. Therefore, to avoid distorting the cumulative percentage, the actual and possible values are totaled and the percentage value is determined from the resultant totals.

The blocks in the bottom right hand portion of the matrix are provided to record the overall values of the audit results. The actual and possible values in those blocks are the same if the horizontal or vertical marginal values are added. A check of the correctness of the matrix can be done by adding the horizontal and vertical marginal values to insure the totals are the same. The calculation of the overall compliance rate is computed based on the cumulative marginal values of the actual and possible outcomes. The reason for computing the overall compliance rate on the total value of the actual/possible values is the same as mentioned previously in determining the marginal percentages, i.e., different values of the denominator.

The summary audit matrix provides the auditors a concise array of data by which a number of statistical tests can be performed. In addition to statistical testing, the data can also be used to calculate descriptive statistics. The matrices are not a panacea for all data collection situations but are versatile and provide assistance in data collection for quality assurance studies.

Data Manipulation

Subsequent to data collection, the individual performing the QA study must analyze the results. There is not a standard analysis, the nature of the problem

dictates the type of analysis. Statistical tests enable the individual conducting the study to analyze the data utilizing accepted techniques. The results of the statistical tests are extremely valuable in reaching a solid/defendable conclusion.

To determine the appropriate analysis, the study supervisor must decide on what the study is to determine. Common statistical techniques are:

1. Descriptive Statistics - provides a mathematical portrait of study data, particularly useful in an initial study. The results provide a basis for follow-up studies. A more complete discussion is contained in Appendix K.

2. Hypothesis Testing - enables the study supervisor to draw statistical conclusions on observed data based on predetermined standards. This technique can be widely used by the practitioner in evaluating treatment effectiveness, practitioner compliance with audit criteria, and any other observable event for which an acceptability standard is determined. The standard on which a hypothesis test is based may be established by medical literature, regulation or local standard. Further discussion on hypothesis testing with a large sample is contained in Appendix L.

3. T-test - provides the same information as discussed in the preceding paragraph with the exception that the sample size is generally less than thirty.

4. Analysis of Variance - allows the individual conducting the study to determine if there is a difference between two samples by comparing variations in sample data. This technique is extremely useful in determining effectiveness of follow-up actions by reauditing a problem using the original criteria and comparing results. This test reveals whether a statistically significant difference exists. A more complete discussion is at Appendix M.

5. Chi-squared Test - this test calculates the probability that observed outcomes of various events are significantly different than the expected outcomes. This test is very easy to use and an example of the test results is at Appendix N.

6. Regression Analysis - calculates the correlation between a dependent variable and one or more independent variables. This technique is useful in analyzing the impact of the interaction of the variables in the patient encounter. Appendix O contains the results of regression analysis involving patient satisfaction and clinic workload.¹⁵

Conclusion Development Based on Data Analysis

Utilizing the data analysis, the QA study supervisor is in a position to develop conclusions regarding the study. He/she must use the statistical results and his/her professional knowledge in order to accomplish this.

Possible conclusions include:

- no problem exists,
- problem requires practitioner training,
- problem requires changes in method of operation, physical plant alteration, or administrative action,
- problem requires restriction of practitioner privileges,
- problem requires extension of study to other activities.

The conclusion should be specific and obtainable. If the conclusion requires actions outside the authority of the department/committee, the responsible official must be notified. A recommendation regarding follow-up action must be made.

Follow-up Action

In order to demonstrate effectiveness, the QA process is not complete until follow-up action is performed. The follow-up should be planned so that corrective actions have time to take effect, and the follow-up should duplicate the circumstances of the initial study. Altering the circumstances would invalidate the follow-up results. By utilizing the QA study format outlined in Appendix P and the appropriate statistical tests, the study follow-up should not be difficult to conduct. The follow-up step is not only necessary to fulfill the JCAH standards but also demonstrates to the staff the effectiveness of the program.

Footnotes

¹Joint Commission on Accreditation of Hospitals, Manual for Accreditation, Chicago, IL, 1981, pp. 152-154.

²Record of Quality Assurance Studies, Office of the Chief, Professional Services, DeWitt Army Community Hospital, Fort Belvoir, Virginia as of 30 April 1982.

³US Department of the Army, Army Regulation 40-66, Medical Records and Quality Assurance Administration, 15 July 1980, Chapter 9.

⁴InterQual pp. 35-36.

⁵Interview with Major Robert Ridenour, Assistant Chief, Department of Pathology, DeWitt Army Community Hospital, Fort Belvoir, Virginia on 16 April 1982.

⁶Interview with Colonel Jose Ossorio, Chief, Professional Services, DeWitt Army Community Hospital, Fort Belvoir, Virginia on 10 March 1982.

⁷Interview with Major Thomas Hoffer, Chief, Emergency Medical Service, DeWitt Army Community Hospital, Fort Belvoir, VA 22060, on 14 March 1982.

⁸Interview with Major Rideuour.

⁹JCAH, p. 152.

¹⁰Interview with LTC Thomas Puskas, Chief, Outlying Clinics, Department of Family Practice, DeWitt Army Community Hospital, Fort Belvoir, Virginia, on 13 April 1982.

¹¹Telephone Interview with Lieutenant Colonel Arthur Badgett, Chief, Biostatistical/Division, Patient Administration System and Biostatistical Agency, US Army Health Services Command, Fort Sam Houston, Texas, on 13 April 1982.

¹²Interview with Captain Michael Coleman, Chief, Outpatient Records, Patient Administration Division, DeWitt Army Community Hospital, Fort Belvoir, Virginia, on 28 April 1982.

¹³U.S. Department of the Army, Army Regulation 340-18-9, Maintenance and Disposition of Medical Functional Files, 1 December 1979 p. 27.

¹⁴Presentation by Colonel Kenneth Lingel, Deputy Chief of Staff for Resource Management, Headquarters US Army Health Services Command, Fort Sam Houston at the Ambulatory Patient Care Conference, Fort Sam Houston, TX on 1 April 1982.

¹⁵R.C., Gulezian, Statistics for Decision Making, (Philadelphia, 1979) pp. 21-87.

CHAPTER V

CONCLUSION

The ambulatory quality assurance program at DeWitt Army Community Hospital can be improved. The current difficulties with the program result from a lack of focus on the JCAH QA standards which are a responsibility of the reporting activities. The departments, activities and committees which report on quality assurance must concentrate on:

- Being problem focused,
- Having clinically valid criteria,
- Having documentation, and
- Having follow-up actions.

If these four requirements are adhered to by the reporting organizations, the program will be effective.

The leadership of the hospital must convey to the department, activity and committee chairpersons of the organization the importance of their contribution in the QA process. By fulfilling the four QA principles for which they have direct responsibility, these leaders will drive the program.

The importance of quality assurance commands the fullest support of the entire hospital staff. The potential benefits of an active quality assurance program justifies the expenditure of effort necessary to achieve it.

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APPENDIX A
QUALITY ASSURANCE PLAN

DEPARTMENT OF THE ARMY
Headquarters, US Army Medical Department Activity
Fort Belvoir, Virginia 22060

Memorandum
No. 40-91

22 December 1980

Medical Services
QUALITY ASSURANCE PLAN

1. Purpose. The purpose of this memorandum is to establish a written plan that will serve as a basis for a comprehensive, fully integrated, problem-focused approach to a Quality Assurance Plan for US DeWitt Army Hospital (USDAH).

2. General. The overall goal of the Quality Assurance Program (QAP) is to demonstrate USDAM's comprehensive and integrated approach to quality assurance. The principal objective of the QAP is to facilitate the ongoing identification and assessment of problems associated with clinical performance and the delivery of patient care/clinical performance with the intent of improving such care to an optimal level within available resource constraints. The Executive Committee shall serve also as the Quality Assurance Committee for USDAM.

3. Scope. Quality Assurance (QA) refers to all organizational activities that are designed to foster or evaluate patient care. It includes all departments, disciplines, practitioners, ancillary personnel, committees, and administrative personnel. The Commander, US DeWitt Army Hospital is recognized as the delegated and ultimate authority to represent the governing body (Office of the Surgeon General) at the local level. Health care providers will participate in peer review and all patient care processes will be subject potentially to evaluation.

4. Definitions and Goals. Evaluation of actual performance will be measured against clinically valid criteria. Clinically valid criteria is defined as standards, objectives, or criteria that are based on a review of professional standards as reflected in current clinical literature. The criteria "should be expected to result in improved patient care/clinical performance." (JCAH 1981 Manual, p. 152) Criteria developed within the hospital or in conjunction with other area hospitals may also be used as appropriate. Structure, outcome, or process assessments may be used concurrently, retrospectively or prospectively. Formal or informal means (or studies) may be used in investigating the known or suspected problem area(s). In all cases written documentation will be maintained as evidence of all of the QA studies and/or investigations. Credit shall be given for QA investigations or studies which result in the finding that no significant problem existed and that therefore no corrective action is required. Both informal efforts and formal studies, as appropriate to the situation, can be used in the QAP provided the studies and efforts are documented in writing. It shall be the goal of DeWitt Army Hospital to use appropriately both the formal and informal approach in the QAP. Documentation of the QA efforts/studies shall be reflected in all committee minutes effective 1 January 1981. Follow up and monitoring activities also shall be reflected in the minutes to determine the extent of improved patient care and/or the need for additional monitoring or QA studies. There shall be no specific number of studies required. However, committees have the responsibility to

*This Memorandum supersedes MEDDAC Memorandum 40-401 dated 10 October 1980.

22 Dec 1971

conduct QA activities that are problem-focused on an ongoing basis.

Each clinical discipline (professional staff) will review the patient care it provides. Results/findings of each department on QA matters will be communicated in a written report to the Chief, Professional Services (CPS) on a quarterly basis or more frequently as directed by the CPS.

Each administrative department will review its operation to determine if any QA studies are deemed appropriate. Departmental or interdepartmental QA studies will be initiated and reported by the administrative departments on an Ad Hoc basis at the discretion of the administrative department head. An annual summary of all QA studies accomplished or underway will be forwarded to the Executive Officer prior to December of each year by the administrative department heads.

Department chiefs and committees will cooperate in conducting interdepartmental or other QA studies as directed by the Executive Committee. In addition, the CPS (for clinical studies) or the Executive Officer (for administrative studies) will task department chiefs or committee chairmen to conduct QA studies. In addition, a record shall be maintained by the Executive Committee of all proposed, conducted, and rejected QA studies. The findings (or reasons for rejection of the study) shall be documented as a matter of record for review by the JCAH or other authorized inspecting body. Follow up monitoring to document improvement in patient care/clinical performance shall also be directed by the Executive Committee in order to insure that modifications needed to enhance the quality of care have been accomplished.

Hospital Continuing Health Education (CHE) Programs will respond to the information so as to address areas where knowledge deficiencies are noted by the QA studies. Documentation of such CHE Programs shall be forwarded to the CPS by department chairmen who initiate the needed session or CHE Programs. This documentation may be a part of the quarterly written reports to the CPS.

To the maximum extent possible QA activities shall minimize duplication of effort. Consideration should be taken of the potential benefit of a proposed study when compared to the cost (time or other resources) of conducting the study.

5. Responsibilities.

a. The Commander, USDAH is recognized as the delegated and ultimate authority to represent the governing body (OTSG) at the local level. As such, he holds the ultimate responsibility for Quality Assurance Activities within the MEDDAC. Thus, he shall make all final determinations of the extent, if any, to which outside aids (consultants or voluntary review bodies, for example) shall be used in QA activities to identify and/or assess problems.

b. The Chief, Professional Services (CPS) is responsible to the commander for the conduct and implementation of the QA Program and for compliance with the JCAH QA standards and the HSC directives on QA matters. The CPS is responsible for the coordination of all QA activities.

c. The executive Officer (XO) is responsible to the commander to insure that the QAP is cost effective.

d. All department chiefs and committee chairmen are responsible to the CPS for the implementation and conduct of an effective QAP within their respective departments and/or committees.

(1) Interdepartmental QA studies (proposed). Appendix A specifies the format to be used in submitting a proposal for an interdepartmental study. A department chief or a committee chairman may initiate a proposal for a QA study by using the format shown at Appendix A. In addition, any other personnel assigned to USDAH may initiate a proposal for a QA study by completing the QA Study Proposal (OF) and by submitting it through departmental or committee channels. These will be forwarded to the HEC, XO or CPS. If disapproved for study, the reason(s) will be documented for review by the JCAH or other authorized inspecting body.

(2) Reports on QA Studies Conducted. Appendix B specifies the format to be used in reporting on Quality Assurance Studies. This format will be used for studies done within a department and for interdepartmental studies. Committees may elect to briefly summarize a problem, solution and follow up action in the committee minutes if resolution of the problem can be determined easily (see paragraph 7a(1)). Committees are encouraged to use the format at Appendix B when feasible and appropriate. The Executive Committee shall determine which problem focused formal and/or informal studies should be initiated. In addition, the CPS may direct QA studies in the administrative areas. Department chairmen may direct QA studies within their departments or, in cooperation with another department(s).

6. Administration/Coordination of the QAP. The Hospital Executive Committee shall insure that the QAP is implemented in an ongoing manner as required by JCAH. The Hospital Executive Committee shall also insure that the QAP is reappraised at least annually. The reappraisal shall result in the identification of "components of the Quality Assurance Program that need to be instituted, (shall) assure that the program is ongoing, comprehensive, effective in improving patient care/clinical performance, and conducted with cost efficiency." (JCAH 1981 Standard, pp 53-4)

The QA Committee shall consist of the membership shown at Appendix C. The flow of QA information for committees and departments is shown at Appendix D. Relevant feedback information should be channeled from the Executive Committee to department chiefs and on to chairmen of committees so that the QAP is comprehensive, integrated, and continuous.

7. Implementation.

a. Methodology. The QAP will be committee/department oriented. Each committee/department will initially be required to review the QA standard, 1981 JCAH Accreditation Manual for Hospitals, and this MEDDAC Memorandum.

(1) Committee minutes/report format will make a statement by separate paragraph (entitled QUALITY ASSURANCE) to the effect that a QA problem was/was not identified by that committee. When a QA problem is identified, a brief summary of

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the problem and proposed solution or method of investigation will be included for subsequent review by the Hospital Executive Committee. This paragraph will also show documentation/evidence of follow up action reference previous problems.

(2) All committee reports ~~will be submitted~~ to the Hospital Executive Committee for review, evaluation and coordination of QA matters. The Chief, Professional Services in coordination with the Executive Officer will establish and periodically update priorities with regard to the order in which inter-departmental problems should be assessed. The Executive Committee will direct comprehensive studies of problems to affected committees, activities, departments, and divisions and will assign responsibility for problem investigation and resolution. The format shown at Appendix A (Proposed QA Study) may be used for this purpose or the Executive Committee may give general guidance on the known or suspected problem and may direct those assigned to prepare a report (Appendix B) based on their investigation and findings.

(3) The Executive Committee will direct appropriate follow up action through its committee review process. The Hospital Executive Committee will monitor problem resolutions at least once during the subsequent quarter and during the annual review.

(4) The Hospital Executive Committee will review and evaluate the QAP annually during December beginning in December 1981. During the annual review, this QA Memorandum will be updated and/or revised. Documentation of the annual reassessment will consist of a list of problems identified during the past year and a summary statement as to the program's impact on improving clinical performance and patient care. The above documentation will be made a part of the minutes of the December Hospital Executive Committee meeting. The Hospital Executive Officer and Chief, Professional Services will develop the problem list in advance of the QAP annual review.

b. Problem Identification. There are no specific numerical requirements with regard to QA problems DeWitt Army Hospital should identify annually. The annual goal of DeWitt Army Hospital will be to identify and resolve a minimum of one QA problem per hospital committee, with the exception of the Medical Library Committee, the Accreditation Committee, and the Health Consumer Committee. The attached list of data sources (Appendix E) will assist in problem identification. Clinically valid criteria will be used to identify and assess problems. The QAP will focus primarily on:

- (1) Known or suspected problems (not limited to diagnoses or procedures).
- (2) Problems for which there are local solutions.
- (3) Problems that adversely impact on patient care or benefits.

c. Problem Focused Approach. The problem focused approach is to be utilized for all QA studies. A problem is defined as any deviation from an expected desirable outcome or an area of concern. The problem focused approach is based on the assumption that to obtain maximal benefit from a QA study

emphasis must be focused on the resolution of known or suspected problems. In addition, due to resource limitations, priorities must be established so that those problems having the most immediate and adverse impact on patient care will be studied first.

(1) Problem Identification. Problem identification should be encouraged at all levels within the health care organization. Departmental and service chiefs will formulate and implement a mechanism for encouraging problem identification and submit problem lists with priority rationale to the Executive Committee for further prioritization. Problem identification is to be concurrent and ongoing.

(2) Problem Prioritization. A problem list will be formulated and maintained in order to insure that the hospital QAP encompasses all organizational elements and that resources are utilized for maximum benefit. The CPS, Director of Nursing, and XO will compile the problem lists and recommend study priorities. The Executive Committee will review the current list at each monthly meeting and will make changes as needed. Ordinarily the establishment of priorities for problem resolution shall be related to the degree of adverse impact on patient care that can be expected if the problem remains unresolved.

8. Other Quality Assurance Responsibilities. The Executive Committee will insure that the staff and all committees comply with JCAH evaluations required at the prescribed frequencies (see Appendix F).

9. Reporting Procedures. There is no specific number of QA studies which must be completed in order to comply with existing requirements. The HEC will monitor the entire QAP to insure that all organizational elements are involved. QA studies should use the format shown at Appendix A and Appendix B. Reports will be submitted along the organizational lines identified in the Quality Assurance Information Flow Chart (Appendix D). Alternate informal reporting pathways may be utilized whenever appropriate to facilitate the maximum exchange of information. All QA studies will be treated as sensitive, confidential information to be made available to authorized individuals with a legitimate "need to know". The CPS will coordinate all QA reporting activities. The HEC will serve as custodian of all QA reports and documents.

10. Problem Resolution. Resolution of problems may require any or all of the following:

- a. New/revised SOP's
- b. Staffing changes
- c. Equipment/facility changes
- d. Sanctions (clinical privileges)
- e. Education and/or training programs

Continuing Medical Education (CME) and/or training programs will be used as appropriate as a vehicle for resolving problems noted in QA studies or other QA activities. Documentation of CME relevant to QA matters will be accomplished through committee minutes and/or departmental channels as appropriate.

22 December 1980

11. Self Assessment of QA. (See Self Assessment Matrix (as of Sep 1980) - Appendix G.)

a. The Executive Committee will insure that QA information (input and feedback) is shared in an appropriate manner with other committees and/or departments in order to facilitate communication on QA matters that may result in improvements to care and/or the operation of DeWitt Army Community Hospital.

b. The Executive Committee will review the Self Assessment Matrix at least quarterly to determine which committees may be combined or made sub-committees of another committee in order to avoid or reduce duplication of efforts by those committees.

c. Additionally, the Executive Committee will review the Self Assessment Matrix at least quarterly to insure that the flow of information and other aspects of the Matrix meet the spirit and intent of current JCAH requirements. Recommended changes should be communicated to the committee(s) involved.

12. References and Authority.

a. AR 40-66, Chapter 9, "Quality Assurance"

b. JCAH Accreditation-Manual for Hospitals, 1981

c. MEDDAC Memo 15-1, MEDDAC Committees, Boards, Councils, and Conferences, 9 October 1980

d. MEDDAC Policy No. 40-401, Quality Assurance Plan, 22 Apr 80 (Ft Meade MEDDAC)

e. Ltr, Subj Implementation of the New JCAH Standards on Quality Assurance, 22 Feb 80 (HSOP-PR)

AHDCM-AR

FOR THE COMMANDER:

Margaret A. Maggio
MARGARET A. MAGGIO
1LT, MSC
Adjutant

DISTRIBUTION:

A

PROPOSITION FORM

Use of this form, see AR 346-15; the proponent
is The Adjutant General Center.

ANCE OR OFFICE SYMBOL

SUBJECT

Proposed Quality Assurance Study (Subject of Study)

CPS

FROM

DATE

CMT 1

XO or Executive Committee

Problem: (State briefly)

2. How Identified: (Department, committee, complaints, etc.)

Objective(s) of Study:

Criteria: (Examples: JCAH Standards, SOP's, AR's, Local staff consensus or
ion, audit, etc.)

Resources Required:

- Personnel (List recommendations of personnel to conduct study)
- Time (Estimate the time needed to conduct study and report findings)
- Equipment/Supplies (Estimate costs, if applicable)
- Other (List other departments involved and list other pertinent resource costs not
viously identified)

3. Recommended Priority: (Within department/hospital or other, Discuss impact if
problem is not studied)

7. Other Comments: (If any)

Chief, Department or Committee

FROM CPS

DATE

CMT 2

XO or Executive Committee

1. Study is approved/disapproved/deferred at this time. NOTE: IF APPROVED, THE PRIORITY
ASSIGNED WILL BE NOTED. NOTE: IF STUDY IS DISAPPROVED OR DEFERRED THE REASON WILL BE
STATED.

2. Chairman for study is _____, Others on committee are _____,
_____, _____, etc.

3. Departments involved in study: (Specify)

4. Constraints: (Optional paragraph. Example: Constraints on resources)

5. Suspense date for completion of study is: (Specify)

APPENDIX A

CPS or XO

DA FORM 2496

REPLACES DD FORM 96, WHICH IS OBSOLETE.

DISPOSITION FORM

For use of this form, see AA 340-18; the proponent agency is The Adjutant General Center.

REFERENCE OR OFFICE SYMBOL	SUBJECT Report on QA Study (Subject of Study)
----------------------------	--

TO CPS XO or Executive Committee	FROM	DATE	CMT 1
<div>1. Problem:</div> <div>2. How Identified:</div> <div>3. Objective(s) of Study:</div> <div>4. Criteria:</div> <div>5. Resources Required:</div> <div>6. Priority:</div> <div>7. Actions Taken: (Examples: Samples, audits, design of study, etc.)</div> <div>8. Results: (What you found)</div> <div>9. Corrective Action(s): (List actions taken, if applicable)</div> <div>10. Recommended follow up actions to determine effectiveness:<div>a. Short range:</div><div>b. Long range: (Indicate time frames and/or frequencies of monitoring. Specify how follow up is to be accomplished.)</div></div>			

NOTE: The first 6 paragraphs may be omitted if previously documented in a QA proposal. (See Appendix A) However, for studies done within a department and reported upon completion, all of the paragraphs will be shown.

NOTE: Other paragraphs, if appropriate, may be added to those shown above.

Chairman of Study

TO	FROM CPS/XO/HEC	DATE	CMT 2
<div>1. Identify plan for review and further action or follow up.</div> <div>2. Establish suspense date if appropriate.</div>			

APPENDIX B

TO CPS/XO/HEC

FROM

DATE

CMT 3

1. Provide details of follow up and/or monitoring. State if further monitoring should be continued and give recommendations (type of follow up, timing, frequency, etc.).

2. Other comments are optional.

Chairman of Study

TO

FROM

DATE

CMT 4

1. Prescribe plan for continuation of follow up or further investigation.

2. Note that problem has been resolved (or that no problem was found to exist upon investigation).

CPS/XO/HEC

B-2

QA COMMITTEE MEMBERS

Commander, US DeWitt Army Hospital

Executive Officer

Chief, Professional Services

Chief, Department of Nursing

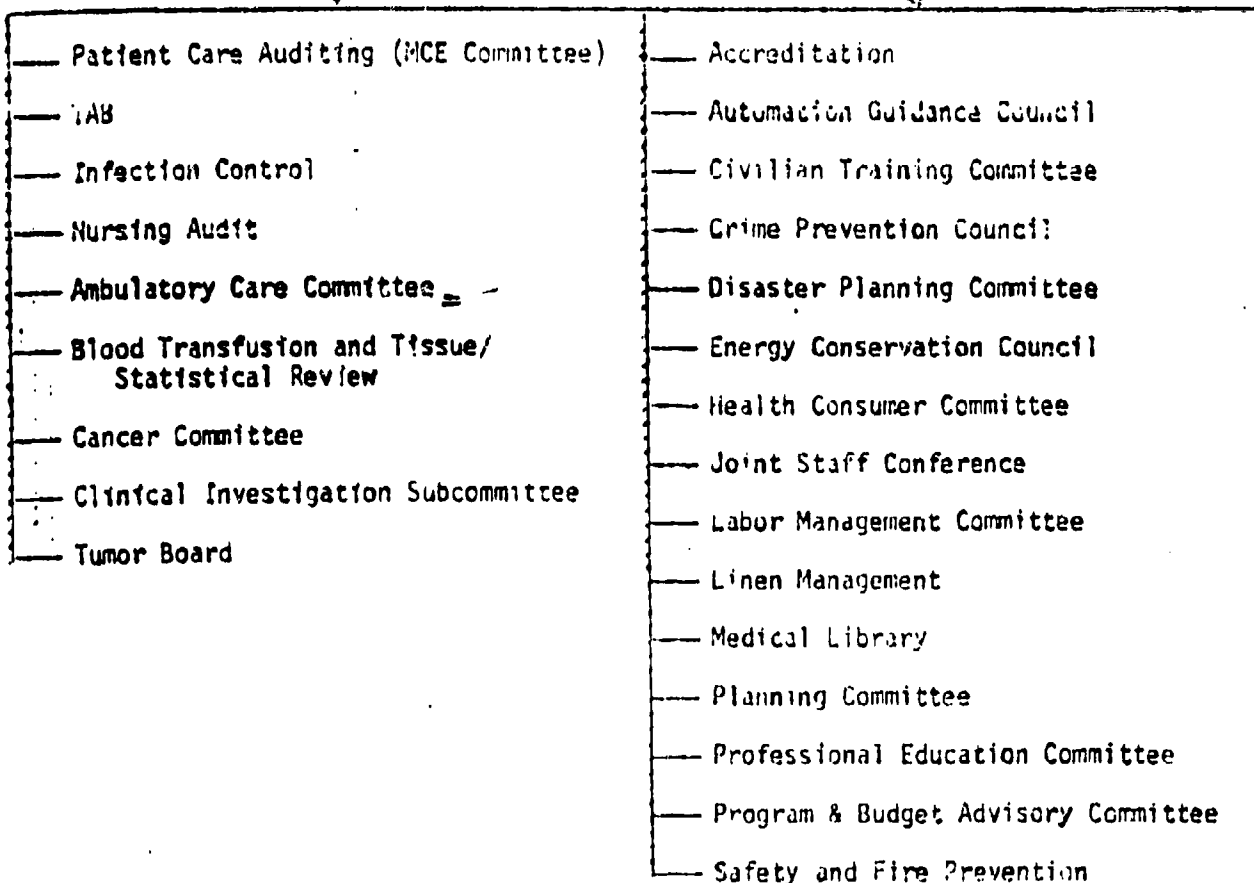
Administrative Resident (non voting member)

Secretary, MEDDAC Commander, Recorder (non voting)

NOTE: THE ABOVE MEMBERS ARE ALSO MEMBERS OF THE EXECUTIVE COMMITTEE

APPENDIX C

Hospital Executive Committee



APPENDIX D

QA DATA SOURCES

Medical Records	Committee Findings
Pharmacy Prescriptions	Current Literature
Patient or Practitioner Profile Data	Medical Audits
Nursing Audits	Incident Reports
Risk Management Reports or Studies	Ancillary Services Requests and Reports
Financial Data	Patient Surveys or Comments
Letters of Complaint/Comment	Personnel Staff Interviews
Medical Statistics	Tissue Review
Blood Utilization Review	Safety Findings
Infection Control Findings	Laboratory Reports
Radiology Reports	Other Diagnostic/Clinical Reports
Utilization Review Studies	Internal Review Studies
IG Reports	JCAH Survey Recommendations
AAA Reports	Observations
Mortality/Morbidity Review	Review of Treatment
Profile Analysis	

APPENDIX E

HOSPITAL WIDE FUNCTIONS REQUIRING MEDICAL STAFF PARTICIPATION

ACTIVITY	FUNCTION	FREQUENCY
Infection Control Committee (Infection Control Standard II)	Review infections within the hospital, cultures of personnel or the environment, results of any antimicrobial susceptibility/resistance trend studies, proposals and protocols for all special infection control studies conducted throughout hospital	Quarterly at least once a month
Multidisciplinary Safety Committee (Functional Safety and Sanitation Standard I)	Adopt, implement, and monitor a comprehensive, hospital-wide safety program	Quarterly
Disaster Planning (mechanism not specified) (Functional Safety and Sanitation Standard III)	Plan for external and internal disasters, and rehearse and evaluate all drills	Annually at least annually for every shift and long term plan
Utilization Review Program (Utilization Review Standard I)	Address overutilization, underutilization, and inefficient scheduling of resources Delineate responsibilities for discharge planning	Quarterly review and evaluation of ongoing program

SUPPORT SERVICE EVALUATION FUNCTIONS

PERTINENT CHAPTER	SOURCE OF EVALUATION	FREQUENCY
Anesthesia Services (Standard I)	Preestablished criteria	Quarterly
Dietetic Services (Standard VII)	Input of medical, nursing, and dietetic staffs Outside sources if used Medical record	Quarterly
Emergency Services (Standard VI(1))	Preestablished criteria Use of medical record	Quarterly More frequently when plans are under review
Home Care Services (Standard V)	Patient records, both active and closed	Quarterly Note: The standard also requires annual evaluation of program objectives by a multi- disciplinary advisory committee and review of patient care plans not less frequently than 90 days
Hospital-Sponsored Ambulatory Care Services (Standard VI)	Preestablished criteria Use of medical record	Quarterly More frequently when service is organized by specialty services or has outreach programs

APPENDIX F

SUPPORT SERVICE EVALUATION FUNCTIONS

PERTINENT CHAPTER	SOURCE OF INFORMATION	FREQUENCY
Nuclear Medicine Services (Standard II)	Review and evaluation of services provided as documented by director	Not specified
Pathology and Medical Laboratory Services (Standard I)	Review and evaluation of the quality and appropriateness of services rendered by the director	Not specified
Pharmaceutical Services (Standard III)	Participation by pharmacist in those aspects of the overall quality assurance program that relate to drug utilization and effectiveness	Not specified
Radiology Services (Standard I)	Review and evaluation of quality and appropriateness of radiologic services by director	Not specified
Rehabilitation Program Services (Standard I)	Preestablished criteria Involvement of medical staff and rehabilitation personnel	Quarterly
Respiratory Care Services (Standard VI)	Preestablished criteria Involvement of medical staff and respiratory care personnel Use of medical record	Quarterly
Social Work Services (Standard V)	Preestablished criteria Use of medical record Outside services if used	Twice annually
Special Care Units (Standard II)	Review and evaluation of the quality, safety, and appropriateness of the patient care within the unit as related to the findings of hospital and medical staff quality and safety assessment activities	Regularly by physician-director Quarterly by multi-disciplinary committee (for a multipurpose social care unit)

NURSING EVALUATION

ACTIVITY	FUNCTION	FREQUENCY
Department/Service Meetings (Nursing Services Standard II) (May be performed on department/service/unit level)	Identify problems; propose solutions Consider findings from relevant nursing care and monitoring activities	At least six times a year
Review and Evaluation of Nursing Practice and Functions (Nursing Services Standard VII) (performed by department/service as a whole, by designated representative committee, or by nursing staff assigned to departments/services/units)	Examine the provision of nursing care and its effect on patients Review quality and appropriateness of care provided by nursing personnel who are not hospital employees	At least quarterly

MEDICAL STAFF EVALUATION, ASSESSMENT, AND MONITORING ACTIVITIES

ACTIVITIES	FUNCTION	FREQUENCY
Executive Committee (Medical Staff Standard II)	Receive and act upon reports and recommendations from medical staff committees, departments, services, and assigned activity groups	Monthly
Medical Staff Departments (Departmentalized staff) or Staff (nondpartmentalized staff) (Medical Staff Standard III)	Review patient care and treatment Maintain record that includes resultant recommendations, conclusions, and action instituted	Monthly
Designated Mechanisms of the Medical Staff (Medical Staff Standard IV)	Evaluate patient care through specific studies using preestablished criteria Monitor elements of patient care identified in staff or departmental service rules and regulations	As indicated Continuously
Tissue Review Function (surgical case review)	Perform review on cases in which a specimen (tissue or nontissue) was removed, as well as cases in which no specimen was removed	Monthly
Pharmacy and Therapeutics Function (See also Pharmaceutical Services Standards III - V)	Develop and survey pharmacy and therapeutic policies and procedures related to the selection, intrahospital distribution and handling, and safe administration of drugs Evaluate and approve all protocols concerning use of investigational or experimental drugs	Quarterly or more frequently
Medical Record Function (See also Medical Record Services Standards I - III)	Review medical records for timely completion, clinical pertinence, and <u>overall</u> adequacy for quality assurance activities	Quarterly or more frequently
Blood Utilization Review	Review blood transfusions for proper utilization with proper attention to use of whole blood versus component blood elements Evaluate blood use, including a review of the amount of blood requested, amount used, and amount of wastage	Quarterly or more frequently
Antibiotic Usage Review	Establish criteria for prophylactic and therapeutic use of antibiotics in problem areas and review departures from these criteria	Ongoing usage assessment

[illegible]

(b) HP 1515, (c) 1515, 1515, 1515

(b) HP 1515, (c) 1515, 1515, 1515

*These conditions send photos to INS for review.

[illegible]

CLASHING NEGATIVE OFFICER

Chrysomelidae

COPIES OF 45 11 166

1-462710-1

HSC Hospital Executive Council -

IC-insulin control

Jan 12 1962

Logical error:

Normal total serum protein

Case of 2011-12

17-00000

77. Please report to:

1. *Collection of papers*

2. *do not know*

311. $\frac{1}{2} = \frac{1}{4} + \frac{1}{4}$

1. *Chlorophyll a* (Chl *a*)

12. 2. 1. 1

(2) $\therefore \angle 1 = \angle 2$

(b) 22.05, 2

51102

(5) 7.0.0.0-6.0.0.0

... 501544.

APPENDIX G

1. Is the function performed by an individual or committee for the function?	2. Is there a written description or procedure for the function?	3. What data sources are needed to perform this function?	4. Are procedures, clinically valid criteria used?	5. Is a purpose of the function to identify problems? Are important ones identified?	6. Does the responsible individual or committee recommend or implement action?	7. Is there monitoring to determine effectiveness of action?	8. To whom are the results of the function reported? With whom are they shared?	9. Is the function evaluated routinely?	Committees									
									Hospital Executive Committee	C								
									Patient Care Auditing (Medical Evaluation)	C	Ch							
									Credentials Committee	CMS	CPS							
									Therapeutic Agents Board	C	CMS							
									Infection Control	C	Infect Ctr							
									Nursing Audit (Info Pending)									
									Ambulatory Care Committee	C	CMS							
									Blood Transfusion & Tissue/Statistical Review	C	Ch							
									Cancer Committee	Cy	Ch							
									Statistical Investigation Subcommittee		Ch							
									Tumor Board	C								
									Utilization Review Board	C	CMS							

*These committees send minutes to HEC for review.

C-Committee
 Ch-Chief Executive Officer
 Ch-Chairperson
 CS-Chief of Staff
 I-Individual
 HEC-Hospital executive committee
 IC-Infection control
 Impl-Implement

MM-Medical record
 MS-Medical staff
 OS-Operating room
 P-Pharmacy
 UR-Utilization review
 To do not know
 Var-Various

G-2

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SELF ASSESSMENT MATRIX (CONDUCTED BY HEC) US NMHC Army Hospital (as of September 1990)

ASSESSMENT QUESTIONS	CPCHT	Energy Conservation Task Group Committee	MSC/AMSC/VC Continuing Education Committee	NCO Advisory Council	Professional Staff Executive Conference	Soldier of the Month Board	
1. Is the function performed by an individual or committee?	C	BOTH	C	C	C	C	
2. Is it routinely recognizable for the function?	Chairman	Chairman	Chairman	CM	CPB	CSM	
3. Is there a written description or procedure for the function?	Yes	Yes	Yes	FO	Yes	Yes	
4. That data sources are needed to perform this function?	Incl- dent report	Various	None	Various	Various	Soldiers (weekly)	
5. Are procedures used, consistently valid criteria used?	Yes	N/A	?	Yes	No	Yes	
6. Is a purpose of the function to identify problems? Are important ones identified?	Yes	Yes	N	Yes	No	No	
7. Does the responsible individual or committee recommend or implement action?	Yes	Yes	Implement	Yes	BOTH	Yes	
8. Is there monitoring to determine effectiveness of action?	Yes	Yes	Yes	Yes	Yes	Yes	
9. To whom are the results of the function reported? With whom are they shared?	C CG NHPA CPR, CFS	CO ALL	CDR Officers Involved	NGOs & CDR	CDR HC/Dept Ch	I	
10. Is the function evaluated routinely?	Yes	Yes	No	Yes	No	Yes	

*These committees send minutes to HEC for review.

CPCHT=Chief Executive Officer
C=Chairman
CM=Chief of Staff
I=Individual
MSC=Medical Executive Committee
NCO=Noncommissioned Officer
HC=Health Control
Impl=Implement

Unmet and record
Unmet and record
Unmet and record
Unmet and record
Unmet and record
Unmet and record
Unmet and record

G-3

D-99,519-AG-Ft Belvoir

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APPENDIX B
PROPOSED QUALITY ASSURANCE STUDY

1

STUDY FORM

Use AR 340-15, 1-74 and AR 340-15, 1-74
General Center

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warrant fully legible reproduction

REF ID: A66001	TE SYMBOL	SUBJECT
		Proposed Policy Assurance Study (Subject of Study)

TO	FROM	DATE	CMT 1
	Executive Committee		

1. Purpose (State briefly)
2. How justified: (Department, committee, complaints, etc.)
3. Objective(s) of Study:
4. Criteria (Examples: JCAH Standards, SOP's, AR's, Local staff consensus or opinion, etc.)
5. Resources Required:
 - a. Personnel (List recommendations or personnel to conduct study)
 - b. Time (Estimate the time needed to conduct study and report findings)
 - c. Equipment/Supplies (Estimate costs, if applicable)
 - d. Other (List other departments involved and list other pertinent resource costs not previously identified)
6. Expected Priority: (Within department/hospital or other. Discuss impact if problem is studied)
7. Comments: (If any)

Chief, Department or Committee

TO	FROM	DATE	CMT 2
	CPS XO or Executive Committee		

1. Study approved/disapproved/deferred at this time. NOTE: IF APPROVED, THE PRIORITY ASSIGNED WILL BE NOTED. NOTE: IF STUDY IS DISAPPROVED OR DEFERRED THE REASON WILL BE STATED
2. Chairman for study is _____. Others on committee are _____, etc.
3. Departments involved in study: (Specify)
4. Constraints: (Optional paragraph. Example: Constraints on resources)
5. Suspense date for completion of study is: (Specify)

APPENDIX A

CPS or XO

DA FORM 2496
1 FEB 62

REPLACES OD FORM 96, WHICH IS OBSOLETE.

APPENDIX C
REVISED QUALITY ASSURANCE PLAN

DEPARTMENT OF THE ARMY
Headquarters, US Army Medical Department Activity
Fort Belvoir, Virginia 22060

Memorandum
No. 40-91

1 March 1982

Medical Services
QUALITY ASSURANCE PLAN

1. **Purpose.** The purpose of this memorandum is to establish a written plan that will serve as basis for a comprehensive, fully integrated, problem-focused approach to a Quality Assurance (QA) Plan for US Army Medical Department Activity, Fort Belvoir, Virginia.

2. **General.** The overall goal of the Quality Assurance Program (QAP) is to demonstrate this MEDDAC's comprehensive and integrated approach to quality assurance. The principal objective of the QAP is to facilitate the ongoing identification and assessment of problems associated with clinical performance and the delivery of health care with the intent of improving such care to an optimal level within available resource constraints.

3. **Scope.** The QAP involves all organizational activities that are designed to foster or evaluate health care. It includes all departments, disciplines, practitioners, ancillary personnel, and administrative personnel assigned or attached to the MEDDAC, Fort Belvoir. Health care providers will participate in peer review and all patient care processes will be subject potentially to evaluation.

4. **Responsibilities.**

a. The MEDDAC Commander is recognized as the delegated and ultimate authority to represent the governing body (OTSG) at the local level. As such, he holds the ultimate responsibility for quality assurance activities within the MEDDAC.

b. The Executive Officer is responsible for administrative actions in support of the QA Plan and for insuring the availability of resources necessary to carry out the provisions of said plan.

c. The Chief, Professional Services will serve as chairman of the QA Coordinating Committee. He has the authority to direct such actions as are deemed appropriate to achieve the goal of the QAP.

d. Division/department/activity chiefs, to include the OIC's of Fort A. P. Hill and Vint Hill Farms Station Health Clinics, are responsible for implementing the procedures outlined in paragraph 5 below.

e. The QA Coordination Committee (see organizational chart at Annex A) will be responsible for the following:

(1) Overseeing all aspects of the QAP, to include reviewing current QA activities, setting priorities on MEDDAC-wide QA actions, and directing actions to be taken in resolving identified QA problems.

*This Memorandum supersedes MEDDAC Memorandum 40-91, dated 22 December 1980.

1 March 1982

(2) Reviewing and evaluating the QA Plan annually during the month of December. During the annual review, this memorandum will be updated and/or revised as necessary. Documentation of the annual reassessment will include a list of problems identified during the past year and a summary statement as to the program's impact on improving clinical performance and health care. The above documentation will be made a part of the minutes of the December QA Coordinating Committee meeting.

f. All MEDDAC personnel must abide by the procedures established herein, remain cognizant of any problem which has or could have a negative impact on the delivery of optimal feasible health care, and communicate said problems to the QA Coordinating Committee.

5. Procedures.

a. Each division/department/activity chief will establish a QAP to assess health care and identify QA problems within their own areas of interest and/or in other areas of the MEDDAC. The functioning of this program will be based on guidance provided by this memorandum and will be outlined in an internal SOP. Copies of a sample QA SOP (Annex B) and minutes of a departmental QA meeting (Annex C without inclosures) are attached. Departmental QA meetings will be conducted on a regular, but not less than quarterly, basis. Copies of minutes of departmental QA meetings will be routed to the QA Coordinating Committee. Intradepartmental problems identified for further study will be reported to the QA Coordinating Committee by completing Sections I through III of MEDDAC(CSD) Form 522 (see Annex D). QA problems thought to extend beyond the preview of individual departments will be recorded in Section I of MEDDAC(CSD) Form 522 and forwarded to the QA Coordinating Committee for action.

b. The committees and support services listed at Annex E will forward an information copy of their minutes/periodic reports to the QA Coordinating Committee. Applicable JCAH evaluation criteria and reporting frequency is specified at Annex F. Committee minutes/report format will include a paragraph summarizing QA issues addressed. QA problems identified for further study will be reported as specified in paragraph 5a above.

c. An individual identifying a potential QA problem may report the problem in one of two ways:

(1) To his/her department/division chief for inclusion into the departmental QA meeting or

(2) Directly to the Chairman of the QA Coordinating Committee (CPS). Format for this report will be as described in paragraph 5a above.

d. Upon receipt of MEDDAC(CSD) Forms 522 by the QA Coordinating Committee, identified problems will be reviewed, evaluated, and prioritized with regard to the order in which assessment will take place. The QA Coordinating Committee will direct comprehensive integration of problems to all interested departments/divisions/activities and assign responsibility for problem resolution. The QA Coordinating Committee will direct appropriate follow-up action through its committee review process and will periodically monitor problem resolution. All problem resolutions will be evaluated during

1 March 1982

MEDDAC Memo 40-91

the annual review. Administrative operation of the QA Coordinating Committee will be governed by the provisions of MEDDAC Memorandum 15-1.

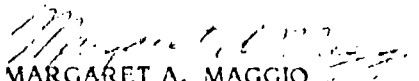
6. References.

- a. AR 40-66, Chapter 9, "Quality Assurance"
- b. JCAH Accreditation Manual for Hospitals
- c. MEDDAC Memorandum 15-1, MEDDAC Committees, Boards, Councils, and Conferences

HSXA-AR

FOR THE COMMANDER:

6 Incl
as

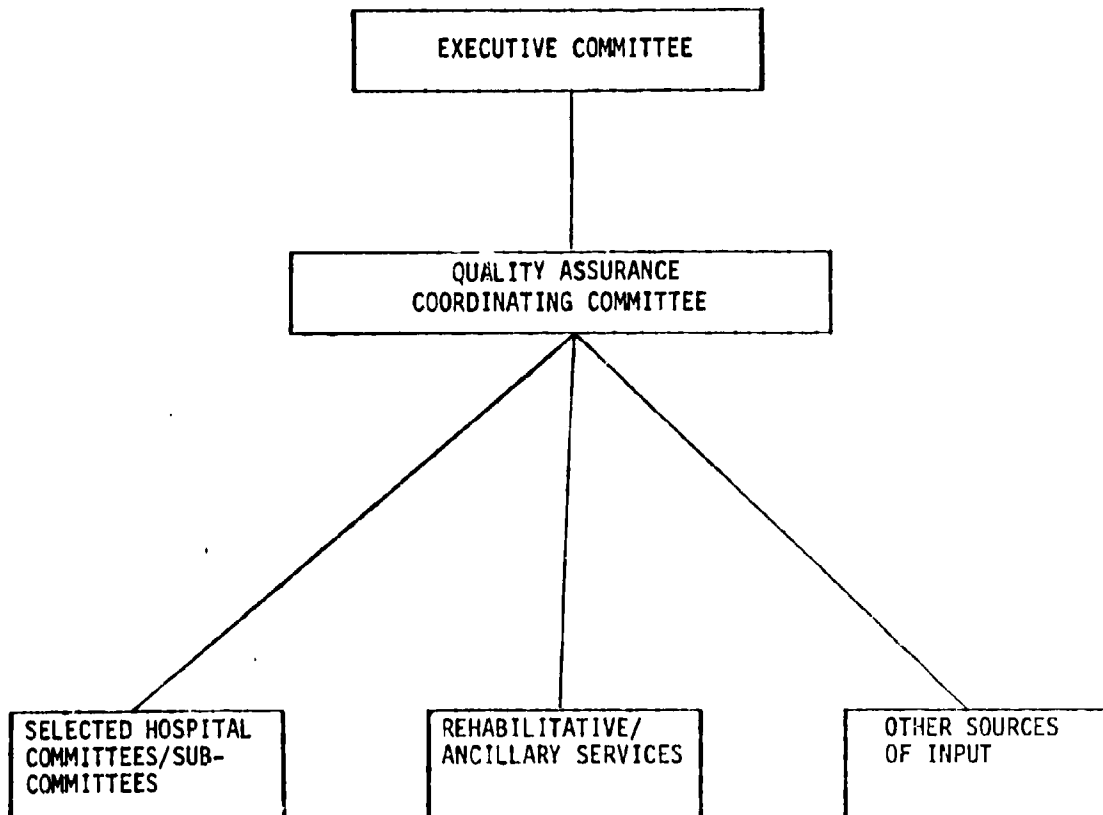

MARGARET A. MAGGIO
CPT, MSC
Adjutant

DISTRIBUTION:

A

ANNEX A

I. Organization



II. COMPOSITION OF QA COORDINATING COMMITTEE

Chief, Professional Service (CPS)	Chairman
Risk Manager	Member
Nursing QA Coordinator	Member
Chief, Inpatient Care Branch	Member
Administrative Resident	Member
Secretary to the CPS	Recorder

DEPARTMENT OF THE ARMY
Headquarters, US Army Medical Department Activity
Fort Belvoir, Virginia 22060

HSXA-FP

1 December 1981

Quality Assurance Program for the Department of Family Practice

1. **Purpose.** To establish guidelines for reviewing and evaluating the quality and appropriateness of inpatient and outpatient services within the department.
2. **Scope.** Family Practice Inpatient Services, Family Practice Clinic, DeWitt Army Community Hospital, Fort Belvoir, Virginia.
3. **Responsibility.** It is the responsibility of the Chief, Department of Family Practice, through the Family Practice Clinic Director and the Inpatient Faculty Coordinator to conduct a review and evaluation of the quality and appropriateness of the inpatient and outpatient services given within the department on a monthly basis. This will be accomplished by the auditing of patient medical records by pre-established criteria.
4. **General.** The criteria to be utilized in the review will be of four types or categories.
 - a. Ongoing daily usage of Inclosure 1 titled "Medical Record Audit" examining the resident physicians' capability in his/her ongoing medical care of patients. This will include the thoroughness of the record, the analytical sense, the reliability and the efficiency of the care delivered. This form will be utilized to evaluate the ongoing, overall continuity and quality of patient care rendered by the resident physician.
 - b. Quarterly audits by disease category; matching residency physicians to disease category and utilizing the Family Practice Computer Management System in identifying patient category type. Audits planned for calendar year 1982-83 will include "diabetes" and "hypertension" and will match resident physician to these categories (see Inclosure 2 and 3).
 - c. Monthly audits of pre-selected patient types and disease categories for all physicians (staff and residents) preselected by the department. These records will be audited by pre-selected criteria on a daily or weekly basis by staff physicians.
 - d. Monthly audits of completed inpatient records of patients hospitalized on the Family Practice Inpatient Services. These will include medical, pediatric, obstetrical and gynecologic patient categories. Audits will be conducted once monthly at the Patient Care Auditing/Quality Assurance Departmental Meeting. Records will be reviewed by criteria listed in Inclosure 4 and charts/records reviewed will be coordinated through the Patient Administration Division, DeWitt Army Community Hospital by the Inpatient Staff Coordinator.
5. **Reporting.** Reporting of all audit results of all categories will be the responsibility of the Chief, Department of Family Practice. Results will be reported to the Patient Care Auditing/Utilization Committee and to the Quality Assurance Committee on a monthly basis.
6. **Problem Areas.** Problems identified in the above described audits will be so recorded utilizing the "Quality Assurance Problem Worksheet" (Inclosure 5). Problems uncovered, solutions proposed and undertaken, and the results of re-auditing will be reported to the Hospital Quality Assurance Committee with this form.

William J. Meinert
LTC, MC
Chief, Department of Family Practice

DEPARTMENT OF THE ARMY
DeWitt Army Community Hospital
Family Practice Center
Fort Belvoir, Virginia 22060

MEDICAL RECORD AUDIT

Patient's Name: _____

Date: _____

Physician's Name: _____

Auditor's Name: _____

Is chart legible: ☐ Yes ☐ No

1. Thoroughness:

YES NO

- a. Complete Data Base _____
- b. Problem list complete and up-to-date _____
- c. Plan written for each significant problem _____
- d. Patient profile in chart _____
- e. Medication list complete and up-to-date _____
- f. Overall rating of thoroughness of record

☐ Excellent ☐ Satisfactory ☐ Borderline ☐ Unacceptable

2. Analytical Sense:

- a. Clear, cogical treatment plan of acceptable quality for each problem _____
- b. Proper consultations for problems _____
- c. Is each problem supported by adequate data, and the need for further data recognized _____
- d. Abnormal findings noted in chart (explained) _____
- e. Overall Rating:

☐ Excellent ☐ Satisfactory ☐ Borderline ☐ Unacceptable

Inclosure 1 to ANNEX B

B-2

3. Reliability:

YES NO

- a. Were problem plans implemented _____
- b. Were additional tests and procedures indicated
actually performed _____
- c. Overall Rating:

___ Excellent ___ Satisfactory ___ Borderline ___ Unacceptable

4. Efficiency:

- a. Were paramedical personnel utilized, if necessary _____
- b. Do flow sheets exist if necessary to deal with
complicated, inter-related problems _____
- c. Did physician time spent seem appropriate
for problem stated _____
- d. Were "inappropriate" or "unnecessary" lab
or x-ray studies performed _____
- e. Overall Rating:

___ Excellent ___ Satisfactory ___ Borderline ___ Unacceptable

DIABETIC CHART AUDIT

Patient: _____

Chart # _____

Physician: _____

1. Problem List

2. Medication List

3. Documentation

a. Ophthalmology consult

b. Podiatry consult *

c. Instruction in insulin usage or
oral hypoglycemics if given *

d. Dietary consult *

* or documentation of being performed by
primary physician

4. Follow-up visit ever 2-3 months if on
insulin or hypoglycemics; every 6-12
months if diet controlled

5. Basic laboratory data: Renal function
test, lytes, CBC, urine, urine culture

6. Recurrent laboratory data: FBS (lower
than 200), urine S/A

7. P.E.: Fundus, BP, C.V., Skin Peripheral
Sensation, DTR

Complete

Incomplete

Overall evaluation

Acceptable ☐

Unacceptable ☐

Comments:

Evaluating physician: _____

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MEDICAL RECORDS AUDIT--HYPERTENSION

Patient _____

Date _____

Social Security # _____

Physician _____

Evaluator _____

Check if complete

___ Problem List

___ Medications Recorded

___ Symptomatology checklist

Physical Exam

___ Ophthalmoscope exam once/year

___ Cardiovascular: heart rate, rhythm,
murmur, peripheral pulses, presence/

absence of bruits

Periodic Laboratory

___ Electrolytes: q 6-12 mos K⁺ q 2-3 wks

___ start or change or diuretic

___ EKG: q year or prn c/s of CHF

___ Uric Acid: q 2-3 wks b start or
change of DX

Order:

Comments:

Check if complete

Laboratory and Consultation

___ Ophthalmology consult

___ CBC

___ UA c/s

___ Electrolytes Na, K, Cl, CO₂

___ Fasting SMA-12

___ Serum creatinine

___ Triglycerides

___ EKG

___ CXR

___ 24 Hour Urinary creatinine

___ if abn, serum creatinine

___ protein ___ if abn, UA (hx of

renal ds, protein or RBC's in urine)

___ 17 OH & 17 KS ___ if Cushing's,

signs & symptoms

___ VMA ___ if postural hypo-

tension, flushing, tachy cardia, dia-

phoresis

___ Hypertensive IVP if over 40 years old

___ Renal arteriogram, Renal renins if

kidney size asymmetrical

Inclosure 3 to ANNEX B

Final Evaluation:

___ Acceptable

___ Unacceptable

Attn: 347

10 Dec 70

B-5

89

OBSTETRICAL PATIENT CARE AUDIT

Date _____

Chart # _____

Auditing Physician _____

- 1) Patient ID Data
- 2) EDC, LMP, or corrected EDC recorded in chart
- 3) Appropriate data for each visit recorded (wt, BP, urine, etc)
- 4) Lab Data on chart -
Type, Rh, Hct, Hgb, PAP smear, Serology
- 5) Review of Systems Analysis
- 6) Past Medical History and Family History
- 7) Previous obstetrical record
- 8) Complete P.E.
- 9) Pelvic Exam with Obstetrical Prognosis
- 10) Chart legible

COMPLETE	INCOMPLETE
YES	NO

Comments:

Overall: _____ Acceptable

_____ Unacceptable

Inclosure 4 to ANNEX B

B-6

**QUALITY ASSURANCE PROGRAM
PROBLEM ASSESSMENT WORKSHEET**

Problem No. _____

Date _____

SECTION I - IDENTIFICATION

1. Statement of Problem:
2. Source of Data:
3. Committee/Office/Individual Identifying Problem:

SECTION II - ASSESSMENT

Date _____

1. Identify Applicable Criteria:
2. Feasible Resolutions:
3. Recommended Resolution:
4. Resources Required:

SECTION III - EXECUTIVE REVIEW

Date _____

1. Action Taken:
2. Priority: _____
_____ Immediate - Resolve within 30 days - review monthly.
_____ Delayed - Resolve within 6 months - review monthly.
_____ Long Range - Resolve within 5 years - review annually.
_____ Deferred - Resolution not feasible with current resources -
review annually.

Inclosure 5 to ANNEX B

B-7

SECTION IV - IN PROGRESS REVIEWS

1. Status:

Date _____

2. Status:

Date _____

3. Status:

Date _____

4. Status:

Date _____

5. Status:

Date _____

SECTION V - RESOLUTION

Statement of Resolution:

Date _____

SECTION VI - FOLLOW-UP/REVIEW

Date _____

Inclosure 5 to ANNEX B

B-8

ANNEX C



HSXA-FP

DEPARTMENT OF THE ARMY
HEADQUARTERS, U. S. DEWITT ARMY HOSPITAL
FORT BELVOIR, VIRGINIA 22060

16 December 1981

SUBJECT: Minutes of the Department of Family Practice Patient Care Auditing
and Quality Assurance Committee Meetings

TO: Chairman
Medical Care Evaluation & Quality Assurance
DeWitt Army Community Hospital
Fort Belvoir, Virginia 22060

1. The meetings were held on 9 December 1981 at 1230 hours in the Main
Conference Room.

2. Members Present:

CPT John H. Black, Chairman, Patient Care Auditing Committee
LTC William J. Meinert, Chairman, Quality Assurance Committee

Staff Members:

CPT Robert Campbell
CPT William McCarberg
CPT Mark Hillard

Resident Members:

CPT Steve Daugherty, 1st year
CPT Janet Spitzer, 1st year
CPT Steven Reissman, 1st year
CPT Laurence Sharp, 1st year
CPT Neal Baillargeon, 2nd year
CPT Mark Beckerman, 2nd year
CPT Eric Brewner, 2nd year
CPT Douglas Cambier, 2nd year
CPT John Reasoner, 2nd year
CPT John Alves, 3rd year
CPT Gerald De Tata, 3rd year
CPT John Pascal, 3rd year
CPT Douglas Phillip, 3rd year

Members Excused or Absent:

Major John Fogarty, Staff
Major R. B. Stith, Staff
CPT Joseph FitzHarris, Staff
CPT Robert Reade, 3rd year
MAJ Thomas Ely, 2nd year
CPT Wayne Jonas, 1st year
CPT James McGhee, 1st year

HSXA-FP

SUBJECT: Minutes of the Department of Family Practice Patient Care Auditing
and Quality Assurance Committee Meetings

3. Old Business:

None. This is the first meeting held. Family Practice Inpatient Service was established 19 October 1981.

4. New Business--Chart Review.

a. Reviewed 25 completed inpatient records to include obstetrical, gynecologic, medicine and pediatric type admissions. The following deficiencies were noted in these records.

(1) Discussed the chart of a 45 year old WM admitted to the ICU with the diagnosis of shortness of breath, wheezing and possible pulmonary embolus. A deficiency existed in the record in that a specialized procedure was not coded on the cover sheet, "VQ scanning", and the diagnosis of "Medical observation for possible pulmonary embolus, suspected, not proven" was not listed on the cover sheet. Record returned to PAD for additional coding.

(2) Discussed the chart of a 2 y/o WM whose parent removed the child from the hospital against medical advice for the problem of wheezing. No mention is made of this on the cover sheet--returned to PAD for additional coding.

(3) Discussed the record of a 1 y/o BM, admitted with potential child neglect. No discharge instruction sheet could be found in the record. This was considered a major deficiency in view of the CPMCT and medico-legal aspects of the case. Chart was returned to the physician for appropriate notation as to disposition and followup.

(4) Discussed the record of a 25 y/o BF, admitted to the ICU with asthma. No mention was made in the chart of the results of several blood gases drawn during the admission. The necessity of comment by the physician who orders lab, x-ray tests in the progress notes was emphasized.

(5) Discussed the record of a 28 y/o WF admitted for an incomplete abortion who underwent an elective D&C. No tissue pathology report was in the chart after 1 month. This was considered inappropriate and the chart was returned to PAD for filing of the tissue result.

(6) Discussed the record of a 61 y/o WM admitted to the CCU on a "R/O MI protocol". No mention is made of the results of a CXR done on admission. Returned to physician for correction or addendum to the record.

(7) Discussed the chart of a 48 y/o WM, admitted to ICU with asthma. Again, no mention of a CXR done on admission.

(8) Discussed the chart of a 24 y/o WF, postpartum, augmented with pitocin after 5 hours of SRON. There was no mention as to the indications for augmentation or whether a staff OB-GYN person was consulted regarding the drug usage. Chart returned for addendum to notations.

HSXA-FP

SUBJECT: Minutes of the Department of Family Practice Patient Care Auditing
and Quality Assurance Committee Meetings

b. Current Inpatient Chart Review: Census on the Service numbered four at the time of the audit. All charts had been reviewed and various deficiencies were corrected at the time of the review by the physician in charge of the patient's care.

c. There were no recorded deaths in the Family Practice Inpatient Service since 19 October 1981.

d. Complications: No iatrogenic complications could be found or were recorded in patient care during the review.

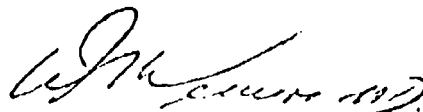
e. Outpatient Chart Review: Formal Outpatient Chart Review has been in effect within the Family Practice Clinic as of 1 December 1981. The audits will follow the format illustrated in the SOP titled "Quality Assurance Program for the Dept of Family Practice", dated December 1981 (Incl #1). Audits planned for December will utilize the "Medical Record Audit" daily (Incl #2) on selected Resident charts. In addition, a generic audit will be conducted on all the Family Practice obstetrical records utilizing Incl #3, "Obstetrical Patient Care Audit." Results of all these audits and statistics gathered will be reported in the January minutes of this Committee

5. Quality Assurance Program--Problem Assessment.

a. The entire QA Program of the Department was explained and clarified to members of the department, as well as the utilization of the Problem Assessment Worksheet.

b. The first QA Problem identified from the Inpatient Records Audit was the high percentage of charts (30%) which were identified as deficient because of the physician's lack of documentation regarding pertinent lab, x-ray and other data. The feeling of the majority of the members was that "if a lab test is important enough to be ordered, some mention of its results should be made in the progress notes". This statement was expanded to include other facets of the patient's care--to include the results of consults, physical therapy and respiratory therapy. See Incl #4 for recommendations.

6. Meeting adjourned at 1335 hours.



WILLIAM J. MEINERT, M.D.
LTC, MC
Chairman, Quality Assurance Committee

ANNEX D

QUALITY ASSURANCE PROGRAM
PROBLEM ASSESSMENT WORKSHEET

Date _____

SECTION I-IDENTIFICATION

A. Statement of Problems:

B. Source of Data:

C. Committee/Office/Individual Identifying Problem:

D. Recommended Individual/Committee/Activity to investigate Problem:

SECTION II-ASSESSMENT

Date _____

A. Identify Applicable Criteria:

B. Feasible Resolutions:

C. Recommended Resolutions:

D. Resources Required:

SECTION III-Executive Review

Date _____

A. Action Taken:

B. Priority:

_____ Immediate-Resolve within 30 days-review monthly.
_____ Delayed-Resolve within 6 months-review monthly.
_____ Long Range-Resolve within 5 years-review annually.
_____ Deferred-Resolution not feasible with current
resources-review annually.

SECTION IV-IN-PROGRESS REVIEWS

A. Status:

Date _____

B. Status:

Date _____

C. Status:

Date _____

D. Status:

Date _____

E. Status:

Date _____

SECTION V-RESOLUTION

Statement of Resolution:

Date _____

SECTION VI-FOLLOW-UP/REVIEW

Date _____

ANNEX E

I COMMITTEES MONITORED BY QA COORDINATING COMMITTEE

ACCREDITATION

AMBULATORY PATIENT CARE
EMERGENCY MEDICAL SERVICES

BLOOD TRANSFUSION & TISSUE

CANCER

CLINICAL INVESTIGATION/HUMAN USE

CREDENTIALS COMMITTEE

INFECTION CONTROL
ANTIBIOTIC UTILIZATION

MEDICAL CARE EVALUATION
CARDIO-PULMONARY RESUSCITATION
CRITICAL CARE
DISCHARGE PLANNING

MORBIDITY AND MORTALITY

RABIES CONTROL BOARD

RISK MANAGEMENT

SAFETY AND FIRE PREVENTION

THERAPEUTIC AGENTS BOARD

TUMOR BOARD

II. ACTIVITIES/SERVICES MONITORED BY QA COORDINATING COMMITTEE

ANESTHESIA
CHN (HOME CARE EVALUATION)
DEPARTMENTAL QUARTERLY QA MEETINGS
DIETETICS
DON QA PROGRAM
FORT A. P. HILL HEALTH CLINIC
PATHOLOGY
PATIENT REPRESENTATIVE (MONTHLY REPORTS)
PHARMACY
PHYSICAL THERAPY
RADIOLOGY
RESPIRATORY THERAPY
SOCIAL WORK
VINT HILL FARMS STATION HEALTH CLINIC

ANNEX F

INVENTORY OF RELATED QUALITY ASSESSMENT & CONTROL REQUIREMENTS*

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
1. Anesthesia	Quarterly	<ul style="list-style-type: none"> Monitoring to reflect the scope of hospital's anesthesia services Include review of all categories of anesthesia personnel Not limited to morbidity/mortality review Representative sample 	<ul style="list-style-type: none"> Should be part of overall hospital QA program Medical record requirements specified (p.6) Involve use of preestablished criteria
2. Dietetic	Annually	<ul style="list-style-type: none"> Review nutritional care of inpatients, outpatients, home care, and outside contracted services, as appropriate Representative sample Quality control mechanisms for specified processes such as nutritional assessment, dietary instruction, etc. 	<ul style="list-style-type: none"> Should be part of overall hospital QA program Shall use medical record and preestablished criteria Review shall include contributions from medical, nursing, and dietetic staffs Medical record requirements specified (p.20)
3. Emergency	Monthly (Recommended more frequently if rapid turnover of physician staffing)	<ul style="list-style-type: none"> Particular attention to DOAs, deaths within the ED and deaths within 24 hours of admission from the ED Representative sample Quality control mechanisms for specified processes such as recall mechanisms, medical record review, etc. 	<ul style="list-style-type: none"> Shall use medical record and preestablished criteria Medical record requirements specified (pp.32,33)

*Excerpts from Joint Commission on Accreditation of Hospitals, Accreditation Manual for Hospitals, 1981 Edition.

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
4. Functional Safety and Sanitation	Continuous program effort, monthly committee meetings	<ul style="list-style-type: none"> • Comprehensive hospital-wide program • Review to include patients, hospital staff and visitors • Policy/procedure development, coordination, review • Incident reporting system • Liaison with infection control 	<ul style="list-style-type: none"> • Produce safe characteristics and practices; eliminate or reduce hazards to the extent possible • Include review of all pertinent records and reports • Methods for measuring of safety program and analysis to determine effectiveness
5. Governing Body (GB)	Continuous	<ul style="list-style-type: none"> • Assure a comprehensive hospitalwide QA program • Credentialing and privileges delineation systems/policies 	<ul style="list-style-type: none"> • Through CEO, ensure that administrative assistance necessary to facilitate objective analysis of quality care • GB should specify the nature and frequency of submission of reports required by medical staff QA activities
6. Home Care	<ul style="list-style-type: none"> • Annual Program Evaluation • Quarterly review of medical records 	<ul style="list-style-type: none"> • Review to include direct and outside contracted services, if used • Both active and closed case medical records review • Representative sample • Case plan review at least every 60 days 	<ul style="list-style-type: none"> • Should be part of overall hospital QA program • Multidisciplinary advisory committee must include (1) physician, (1) RN and other professionals involved in program • Evaluate effectiveness of objectives • Review to include accessibility, timeliness, and need of services • Medical record requirements specified (p.61)

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
7. Hospital Sponsored Ambulatory Care	<ul style="list-style-type: none"> • Biannually • Recommended more frequently if organized by service, have out-reach programs, or rapid physician turnover 	<ul style="list-style-type: none"> • Review to include entire scope of services and outside contracted services, if used • Representative sample 	<ul style="list-style-type: none"> • May be part of clinical service/department review mechanisms • Shall use medical record and preestablished criteria • Medical record requirement specified (p.68)
8. Infection Control	<ul style="list-style-type: none"> • Bimonthly committee meetings • Continuous data collections, surveillance and policy review 	<ul style="list-style-type: none"> • Hospitalwide • Review to include all patients and personnel 	<ul style="list-style-type: none"> • Standard criteria for identifying and reporting infections • Determine infection rates • System for data collection, reporting, antibiotic review and evaluation and follow-up action • Continuous review and evaluation of all hospital aseptic, isolation and sanitation techniques • Required participation by medical staff, nursing, administration, and when available, microbiology section of lab • Medical record requirement specified (p.74)
9. Medical Staff (pp.105-108) a. Special Patient Care Evaluation Differences	<ul style="list-style-type: none"> • As indicated to assess potential problems 	<ul style="list-style-type: none"> • Representative sample 	<ul style="list-style-type: none"> • Conduct specific studies, as indicated using pre-established criteria

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
f. Anti-biotic Usage	Continuous Assessment	<ul style="list-style-type: none"> Should include review of inpatients, ambulatory and emergency patients Representative sample 	<ul style="list-style-type: none"> Should include prophylactic and therapeutic use for all categories of patients Criterion-based review in problem areas Clinical review as well as statistical/prevalence studies Control of usage based on assessment studies
g. Other - patient related professional activities	As indicated by specific review activity	<ul style="list-style-type: none"> As indicated by the specific review activities Representative sample 	<ul style="list-style-type: none"> Participation in hospital-wide activities including planning, safety, etc. Patient care evaluation in ED, OPD, home care Role in care of emotionally ill, alcoholics, drug abusers clarified

Note: Other required medical staff functions include utilization review, (see p.22), monitoring of clinical policies and procedures, mortality review, etc. In addition medical staff quality control includes use of assessment findings for credentials, privileges delineation and continuing education purposes among other corrective action options.

10. Nuclear Medicine	<ul style="list-style-type: none"> Unspecified evaluation activities Continuous safety surveillance 	<ul style="list-style-type: none"> Review and evaluate quality, safety and appropriateness of service 	<ul style="list-style-type: none"> Documented review and evaluation of policies/procedures and committee activities Medical record requirement specified (p.114)
11. Nursing	Quarterly	<ul style="list-style-type: none"> Representative sample 	<ul style="list-style-type: none"> Should be integrated when possible with other hospital QA activities Based on written criteria Include nursing care personnel who are not hospital employees Variety of methods can be used for review/evaluation

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
b. Tissue (surgical case) Review	Monthly	<ul style="list-style-type: none"> • Include inpatients and outpatients • Review to include cases where specimens were and were not recovered • Review all cases with major preoperative/postoperative discrepancies 	<ul style="list-style-type: none"> • Review shall include indications for surgery • May use screening mechanisms with pre-determined criteria
c. Pharmacy and Therapeutics	Quarterly	<ul style="list-style-type: none"> • Development and surveillance of policies and practices, including drug utilization • Advise on available drugs, formulary changes, updating formulary, drug reactions review, and experimental drug use approval 	<ul style="list-style-type: none"> • In cooperation with pharmacist and other disciplines as required
d. Medical Record	Quarterly	<ul style="list-style-type: none"> • Review to include inpatient, hospital-sponsored ambulatory care, ED and home care records • Representative sample 	<ul style="list-style-type: none"> • Review for timely completion, clinical pertinence, overall adequacy for use in quality assessment activities, and as medico-legal documents • Required nursing and medical record staff participation
e. Blood Utilization	Quarterly	<ul style="list-style-type: none"> • Review to include inpatient, hospital-sponsored ambulatory care, ED and special care patients • Representative sample 	<ul style="list-style-type: none"> • May be performed through retrospective patient care evaluation, medical record review, or other patient-specific review mechanism • Review for proper utilization of blood transfusions • Shall review whole vs. component blood elements • Shall review all actual or suspected reactions • Should review amount requested, used, and wastage

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
12. Pathology and Medical Laboratory Services	Unspecified	<ul style="list-style-type: none"> • Participation in hospital QA program • Servicewide quality control program to assure reliability of laboratory data 	<ul style="list-style-type: none"> • Director of Pathology and medical laboratory assure departments' participation in overall QA program
13. Pharmaceutical Services	Unspecified	<ul style="list-style-type: none"> • Include departmental/service/individual prescriber review • Representative sample • Intradepartmental quality control strategies such as drug profile, policies/procedures, etc. 	<ul style="list-style-type: none"> • Should be part of overall hospital QA program specific to drug utilization and effectiveness • May include determining usage patterns by clinical department/physicians • Assist in establishing drug use criteria
14. Radiology	Unspecified	<ul style="list-style-type: none"> • Review to include inpatient, outpatient, and ED services 	<ul style="list-style-type: none"> • Review and evaluate quality and appropriateness of services • Medical record requirements specified (pp.159-160)
15. Rehabilitation Programs/ Services including, as applicable, any specialized services provided including Physical Therapy, Occupational Therapy, etc.	Quarterly	<ul style="list-style-type: none"> • Review to include inpatient, outpatient and ED services • Representative sample 	<ul style="list-style-type: none"> • Systematic review and evaluation of quality and appropriateness • Predetermined criteria • Participation by medical staff and rehabilitation personnel • Medical record requirements specified (pp.164 - 165)

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
16. Respiratory Care	Quarterly	<ul style="list-style-type: none"> Review includes in-patients, outpatients, home care patients, and outside services, if used Representative sample 	<ul style="list-style-type: none"> Physician-director responsibility Should be performed within overall hospital QA program Review and evaluate quality, appropriateness, and effectiveness Shall use medical record and preestablished criteria, including indications for use, effectiveness of treatment, and adverse effects requiring discontinuance of treatment Shall include contributions of medical staff and respiratory care services Particular attention to highly utilized services Medical record requirements specified (pp. 175, 176)
17. Social Services	Biannually	<ul style="list-style-type: none"> Review includes in-patients, outpatients, home care patients and outside services, if used Representative sample 	<ul style="list-style-type: none"> Should be performed within the overall hospital QA program Review and evaluate quality, appropriateness and effectiveness Includes all categories of patients Shall use medical record and preestablished criteria (Indications for social work intervention) Particular attention to discharge planning and timeliness of emergency services Medical record requirements specified (p.180)

STANDARD	FREQUENCY	SCOPE/FOCUS	CONTENTS
18. Special Units (multi-purpose or specific-purpose)	Quarterly for multi-purpose units; unspecified for specific purpose units	<ul style="list-style-type: none"> • Representative sample for all units 	<ul style="list-style-type: none"> • Physician-director responsibility • Should be part of overall hospital QA program • Quality, safety and appropriateness evaluated on regular basis • Written criteria for admission to and discharge from special care units

APPENDIX D
CORNEAL ABRASION STUDY

TO: MAJ Thomas Hoffer MC/USA
DeWitt Army Hospital
Ft. Belvoir, VA 22060

FROM: MAJ James Benvenuti MC/USA
DeWitt Army Hospital
Ft. Belvoir, VA 22060

DATE: 1 December 1981

SUBJECT: PRELIMINARY Q/A CRITERIA FOR CHART REVIEW OF CORNEAL ABRASION:
MINIMUM DATA TO BE INCLUDED IN RECORD

- ___ 1. (If patient is verbal): some description is given of recent onset of eye pain or feeling a "foreign body" or "something in the eye"; +/- photophobia; mention is made of any/no change in visual acuity; and some mention is given to related etiologies such as "followed a concussion or scratch to face" or "wearing contact lenses", etc)
- ___ 2. Objective confirmation of corneal abrasion is shown by stating either one of the following:
 - ___ a. Observation of corneal light reflection using oblique side moving illumination ("flashlight test") shows abrasion (or abrasion shadows cast upon iris); or
 - ___ b. Sterile fluorescein strip reveals corneal abrasion which was not evident on "flashlight test"; chart mentions that greenish speckled pattern is not dendritic branching (which would suggest Herpes keratitis).
- ___ 3. Evaluation using binocular magnification and lid eversion excludes foreign bodies remaining and excludes penetrating or perforating injuries into eye.
- ___ 4. The pertinent normal eye findings are included, such as: visual acuity, PRERLA, EOM intact, fundoscopic exam WNL, cornea "otherwise clear" and visual fields WNL to gross confrontation.
- ___ 5. Pertinent negatives are mentioned, such as:
 - ___ a. No corneal anesthesia, pigmentations, diffuse cloudiness or radiations into sclerae.
 - ___ b. No purulent discharge associated with eye pain, OR TRICHIASIS.
- ___ 6. Treatment plan is specified: including firm eye-patches and a 3-5 day course of antibiotic ophthalmic solution.
- ___ 7. Follow-up is specified; including reappointment within 24-36 hours for reexamination.
- ___ 8. Follow-up is arranged until either complete resolution of the problem or referral for complications such as infectious keratitis.

James Benvenuti MAJ/USA

TO: MAJ Thomas Hoffer, MC/USA
DeWitt Army Hospital
Ft. Belvoir, VA 22060

FROM: MAJ James Benvenuti, MC/USA
DeWitt Army Hospital
Ft. Belvoir, VA 22060

DATE: 7 January 1982

SUBJECT: REVISED Q/A AUDIT OF ETR "CORNEAL ABRASIONS"

1. Review of Emergency Room Log for the past six months yielded 90 cases listed as corneal abrasion: 5 of these cases were eliminated because other diagnoses were listed on the record, such as "conjunctivitis".
2. Of the remaining 85 records, 32 were available in our clinic and were audited.
3. Using the Hoffer Corneal Abrasion Criteria, the following deficiencies were noted:
 - a. 12.5% = No mechanism of injury noted;
 - b. 40.6% = No subjective symptom listed;
 - c. 21.8% = No visual acuity noted;
 - d. 46.8% = No fluorescein test cited;
 - e. 0.0% = No eye inspection noted;
 - f. 9.3% = Diagnosis not given as "Corneal Abrasion";
 - g. 65.6% = Treatment Plan did not list topical antibiotic;
 - h. 50.0% = Treatment Plan did not list pressure patch;
 - i. 34.3% = Follow-up did not specify return within 24 h4-48 hr
4. These deficiencies do not necessarily represent poor quality of care: for instance, although the fluorescein test was not cited, it probably was routinely done by the Emergency Room staff. It is also noteworthy that the criteria were only recently developed and disseminated: except for the recent few months, the staff had no guidelines provided. Nevertheless, providing a reminder to the staff of these criteria might improve quality assurance at this hospital.

May James Benvenuti MC/USA

APPENDIX E
FOLLOW-UP CORNEAL ABRASION STUDY

TO: COL Jose Ossorio, MC/USA
DeWitt Army Hospital
Ft. Belvoir, VA 22060

FROM: MAJ James Benvenuti, MC/USA
DeWitt Army Hospital
Ft. Belvoir, VA 22060

DATE: 13 January 1982

SUBJECT: Q/A ONGOING AUDIT OF ETR "CORNEAL ABRASIONS"

1. On 7 January 1982, an audit of Emergency Room records for the past six months yielded 32 available records of "Corneal Abrasion"; the following deficiencies were noted:
 - a. 12.5% = No mechanism of injury noted;
 - b. 40.6% = No subjective symptom listed;
 - c. 21.8% = No visual acuity noted;
 - d. 46.8% = No fluorescein test cited;
 - e. 9.3% = Diagnosis not given as "Corneal Abrasion";
 - f. 65.6% = Treatment Plan did not list topical antibiotics;
 - g. 50.0% = Treatment Plan did not list pressure patch;
 - h. 34.3% = Follow-up did not specify return within 24-48 hrs.
 - i. 0% = No eye inspection noted.
2. By 1 December 1981, the above Hoffer Criteria had been developed and disseminated to the staff. During the following month of December, 19 charts of patients treated for "Corneal Abrasion" were collected and audited. The following deficiencies were noted:
 - a. 10.5% = No mechanism of injury noted;
 - b. 36.8% = No subjective symptom listed;
 - c. 36.8% = No visual acuity noted;
 - d. 36.8% = No fluorescein test cited;
 - e. 0% = Diagnosis not given as "Corneal abrasion";
 - f. 10.5% = Treatment Plan did not list topical antibiotics;
 - g. 21.0% = Treatment Plan did not list pressure patch;
 - h. 36.8% = Follow-up did not specify return within 24-48 hrs.
 - i. 0% = No eye inspection noted.
3. Using the Chi-Square Test for analysis, statistically significant improvement is documented for the following criteria:
 - f. Treatment Plan to list topical antibiotic; and
 - g. Treatment Plan to list pressure patch.
4. Because of the remaining high rate of deficiencies, a re-publication & dissemination of the Hoffer Criteria for Corneal Abrasion is recommended - to include all involved staff.

MAJ James P. Benvenuti, MC/USA

APPENDIX F
CONCERNED CARE FORM

CONCERNED CARE COMMENTS

*Please refer to back for Privacy Act Statement

TO: Patient Representative Office
DeWitt Army Community Hospital
Fort Belvoir, Virginia 22060



Let's Hear About _____

_____ Compliments: Staff member (military, civilian and volunteers) who are doing an outstanding job.

_____ Suggestions: An idea that would improve our care.

_____ Problems: Something to bring to our attention.

DATE: _____

(PLEASE PRINT)

NAME: _____

Sponsor's Social Security Number: _____

ADDRESS: _____

Telephone: _____

_____ zip code

APPENDIX G
PATIENT REPRESENTATIVE MONTHLY REPORT

REFERENCE OR OFFICE SYMBOL

SUBJECT

HSXA-CS

PRO Activities - March 1982

Copy available to DTIC does not permit fully legible reproduction

TO: CDR, MEDDAC

FROM: P.R.O.

DATE: 5 April 1982

CONT: 1

1. The Patient Representative Office activities for March 1982 are presented for review. A matrix which lists the problem areas by clinic/service is attached. (Incl. 1)

2. Analysis of encounters:

	<u>JANUARY</u>	<u>FEBRUARY</u>	<u>MARCH</u>	
Information/Directions	391	432	498	45%
Followup with Patients	70	78	125	11%
Contact with Staff or Other Agencies	231	226	231	21%
Assistances	8	9	2	1%
Compliments	56	74	131	12%
Problems	109	73	117	10%
TOTAL	<u>865</u>	<u>892</u>	<u>1104</u>	<u>100%</u>

3. The P.R.O. received one hundred and thirty-one (131) compliments this month: Ward 4A (2), Ward 3B (17), Ward 4B (12), Family Practice (10), ETR (6), AMIC (5), Urology (5), Surgery Orientation (3), Ophthalmology (5), Surgery (4), Orthopedics (3), L & D (3), OB/GYN (3) and Respiratory Therapy (3). The following areas received 2 compliments each: OR, Recovery, Food Service, ICU, Internal Medicine and Neurology. Red Cross, Ward 3B, A & D, Anesthesiology, PRO, Med. Company, Housekeeping, PT, Refill Pharmacy, CMO Clinic, Occupational Health, CCU, and Cardiology received one compliment each.

4. Comments about the matrix (Incl. 1)

CENTRAL APPOINTMENTS: The complaints about this service have significantly decreased again this month. It is interesting to note the number of complaints regarding the phones in Family Practice and in Pediatrics.

ETR/TRIAGE: Poor communications resulted in at least 12 of these complaints this month.

INPATIENT: Three patients stated that the staff on Ward 4B are doing a good job, but they seem terribly overworked!!

No other trends were noted this month.

5. Case of the month:

PROBLEM #1: An 11 y.o. dependent son and his father arrived at the Orthopedic Clinic at approximately 0930 hours on a Thursday. They supposedly were referred by Quantico, but they had no appointment and no referral. **PROBLEM #2:** Orthopedics referred the patient to AMIC for a referral not thinking that AMIC doesn't see anyone less than 13 y.o. **PROBLEM #3:** AMIC referred the patient to Pediatrics where he was given a "routine" referral to Orthopedics. He returned to Orthopedics where he was told that he would need to make an appointment through CAS. The CAS intercom phones were out of order. **PROBLEM #4:** The CAS supervisor was making appointments in person, but the soonest appointment was for one month in advance. The patient's father felt that this was unsatisfactory so he returned to Pediatrics to have them change the referral from "routine" to "TODAY". He then returned to Orthopedics. **PROBLEM #5:** By this time, the emergency doctor in Orthopedics had been called to the Emergency Room. The patient and his dad were asked to wait, but they did not wish to do so. They left.

HEXA-CS
PRO Activities - March

We could not determine if the patient was referred from Quantico or not. With the exception of Problem #2, the staff gave this patient the correct information about "the system" for being seen. Four hours later, however, the patient and his father left.... The dad said that he would followup with a formal complaint, but at this time, he has not.

6. Additional tasks managed by the P.R.O. during this month are:

- a. provided new MEDDAC employees with a brief orientation to the Patient Representative Office,
- b. attended Potomac Chapter Society of Patient Representatives Meeting at Washington Adventist Hospital in Takoma Park, and
- c. shared job description, monthly report and records ideas with staff from Fort Rucker, Fort Lee, and Fort Leavenworth respectively.

7. If you have any comments or questions regarding the information that is presented in this monthly report, please contact me at ext. 42890.

Pamela N. Duncan

PAMELA N. DUNCAN
Patient Representative

1 Incl.
as

DISTRIBUTION:

XO

CPS

C, Dept. of Family Practice

C, Dept. of Medicine

C, Dept. of Nursing (2)

C, Dept. of Surgery

C, Ambulatory Nursing Svc.

C, CMEA

C, CSD (3)

C, Logistics

C, EMS

C, PAD

C, Pathology

C, Pharmacy

C, Preventive Medicine

C, Radiology

Commander, 15th CSH

Commander, MED. CO.

Navy/MC Liaison

OTC, WFS Health Clinic

Admin. Resident

C, Force Development

C, Satellite Clinics

ЭЭН НЭГЭН

-PATIENT PROBLEMS/COMPLAINTS-

TOTAL:

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CLINIC/ACTIVITY	LACK OF CONCERNED CARE	WRONG OR INSUFFICIENT INFORMATION	LOST MEDICAL INFORMATION	PROBLEMS REGARDING POLICY	QUESTIONS REGARDING MEDICAL CARE	WAITING TIME	LACK OF APPTS	OTHER
5	1	1			2		1	4/1
15		appt. conflicts 3		?????????		on intercom 1		no recording 2 ringing 2 busy 4
3							3	
1								remoteness 1
15	1	3 + 2 very recent appt. conflict 1		brush 1 screening 1	4	2		busy phones 5
6								old friend 1
1								electrons 1
3								phone 1
6	1			sticking 1 signs 1 chill 1 flu 1 tune 1 staying 1				test case (4.5.0) 100% 1/1
7				staying (4.5.3)				car 1
3								st. det. consel. 1
3								unknown (4.5.1) " address 1
1						4/100pt. 1	3	
4	3						1	
2						2		
6	info desk 1		records 2	precautions 1 infects 1		A&D 1		
1	1				autopsy findings 1	resources 2		report 1 phone 1 busy phones 1
3	1	2			2	tc. results 1		
1				refills 1				

APPENDIX H
QA PROBLEM ASSESSMENT WORKSHEET

QUALITY ASSURANCE PROGRAM
PROBLEM ASSESSMENT WORKSHEET

Date _____

SECTION I-IDENTIFICATION

- A. Statement of Problems:
 - B. Source of Data:
 - C. Committee/Office/Individual Identifying Problem:
 - D. Recommended Individual/Committee/Activity to investigate Problem:
-

SECTION II-ASSESSMENT

Date _____

- A. Identify Applicable Criteria:
 - B. Feasible Resolutions:
 - C. Recommended Resolutions:
 - D. Resources Required:
-

SECTION III-Executive Review

Date _____

- A. Action Taken:
- B. Priority:

_____	Immediate-Resolve within 30 days-review monthly.
_____	Delayed-Resolve within 6 months-review monthly.
_____	Long Range-Resolve within 5 years-review annually.
_____	Deferred-Resolution not feasible with current resources-review annually.

SECTION IV-IN-PROGRESS REVIEWS

A. Status: _____ Date _____

B. Status: _____ Date _____

C. Status: _____ Date _____

D. Status: _____ Date _____

E. Status: _____ Date _____

SECTION V-RESOLUTION

Statement of Resolution: _____ Date _____

SECTION VI-FOLLOW-UP/REVIEW

Date _____

APPENDIX I
OUTPATIENT SURVEY

Department of Health and Human Services

[illegible]

SOUTH POST HEALTH CLINIC
10 Most Frequent Medical Complaints and Diagnoses
CHIEF COMPLAINT (Reason for Patient Presenting)

<u>RANK</u>	<u>DESCRIPTION</u>	<u>ACTUAL #</u>	<u>%</u>
1	Musculoskeletal Pain	63	19.8
2	Rash	33	10.4
3	Follow-up	24	7.5
4	Sore Feet	21	6.6
5	Back Pain	18	5.7
6	Physical Exam	14	4.4
7	Blood Pressure Check	13	4.1
7	Sore Throat	13	4.1
9	Stomach Pain	10	3.1
10	Conjestion	<u>9</u>	<u>2.8</u>
	TOTAL FOR THE TOP 10	218	68.8

*Total Useable Observations 318

Diagnoses (Dispositions)

1	Referrals	25	8.7
2	Physical Exam	15	5.2
3	Bronchitis	13	4.5
4	Muscle Strain	11	3.8
4	Blood Pressure Check	11	3.8
4	Muscle Spasm	11	3.8
7	Sinusitis	9	3.1
7	Tendonitis	9	3.1
7	Upper Respiratory Infection	9	3.1
7	Rash	<u>9</u>	<u>3.1</u>
	TOTAL FOR THE TOP 10	122	42.7
**	Poison Ivy	<u>8</u>	2.8
**	Prescription Refill	8	2.8
**	Shin Splints	8	2.8
**	Sprained Ankle	8	2.8
**	Gastritis	8	2.8
**	Common Cold	<u>8</u>	<u>2.8</u>
	TOTAL FOR THE TOP 16	170	59.4

*Total Useable Observations

*The clinic surveyed a total of 454 patients, the total number of observations listed under complaints and diagnoses refers to the number of useable/identifiable entries for those categories.

**These diagnoses were added in order to portray a more complete picture of the range of diagnoses treated in the clinic

FIGURE I. 1

AMIC
10 Most Frequent Medical Complaints and Diagnoses
CHIEF COMPLAINT (Reason for Patient Presenting)

<u>RANK</u>	<u>DESCRIPTION</u>	<u>ACTUAL #</u>	<u>%</u>
1	Musculoskeletal Pain	46	14.7
2	Sore Throat	31	9.9
2	Cough	31	9.9
4	Follow-up	22	7.0
5	Rash	19	6.0
6	Flu Symptoms	18	5.8
7	Congestion	15	4.8
7	LBD	15	4.8
9	Earache	13	4.2
10	Eye Pain	<u>10</u>	<u>3.2</u>
TOTAL FOR THE TOP 10		220	70.3

*Total Useable Observations 313

Diagnoses (Dispositions)

1	Referred	28	9.8
2	Allergy Rhinitis	20	7.0
3	Sininitis	19	6.6
4	Bronchitis	16	5.6
5	Flu Syndrome	15	5.3
6	LBD	10	3.5
7	Tendenitis	9	3.2
8	URI	8	2.8
8	Pharengitis	8	2.8
8	Viral Syndrome	<u>8</u>	<u>2.8</u>
TOTAL FOR THE TOP 10		141	49.3

*Total Useable Observations 286

*The clinic surveyed at total of 343 patients, the total number of observations listed under complaints and diagnoses refers to the number of useable/identifiable entries for those categories.

FIGURE T. 2

FAMILY PRACTICE CLINIC

10 Most Frequent Medical Complaints and Diagnoses

CHIEF COMPLAINT (Reason for Patient Presenting)

<u>RANK</u>	<u>DESCRIPTION</u>	<u>ACTUAL #</u>	<u>%</u>
1	Follow-up Appointment	24	15.6
2	Physical Exam	12	7.8
3	Pap Smears	11	7.1
3	Flu-Symptoms	11	7.1
5	Ear Ache	10	6.5
6	Back Pain	8	5.2
7	High Blood Pressure	7	4.5
8	Routine OB Visit	6	3.9
9	Ear Infection Follow-Up	5	3.3
10	Well Baby Check-Up	5	3.3
<u>Total for the top 10</u>		<u>101</u>	<u>66.0</u>

*Total Useable Observations 153

Diagnoses (Dispositions)

1	Pregnancy	12	7.7
2	Physical Exam	12	7.7
3	Hypertension	10	6.5
4	LBD	7	4.5
4	Serous Otitis	7	4.5
4	Otitis Media	7	4.5
7	Sinus Infection	5	3.2
8	Diabetic	4	2.6
8	Well Baby Check	4	2.6
8	Vaginitis	4	2.6
8	Anemia	4	2.6
8	Routine OB Visit	4	2.6
<u>Total for the top 12</u>		<u>80</u>	<u>51.5</u>

*Total Useable Observations 155

*The clinic surveyed a total of 183 patients, the total number of observations listed under complaints and diagnoses refers to the number of useable/identifiable entries for those categories.

FIGURE I. 3

OBSTETRICS AND GYNECOLOGY

10 Most Frequent Medical Complaints and Diagnoses

In this particular clinic the complaints and diagnoses are listed together due to the limited categories of complaints and diagnoses unidentifiable by the clinic staff.

<u>RANK</u>	<u>DESCRIPTION</u>	<u>ACTUAL #</u>	<u>%</u>
1	OB Routine	155	33.6
2	Follow-Up Appt	61	13.2
3	PAP Smear	39	8.5
4	Vag Infection	32	6.9
5	Problem GYN - ?	27	5.9
6	Preg Test	22	4.8
7	Lower Abdominal Pain	20	4.3
8	BCP Refill	18	3.9
8	Vaginal Bleeding	18	3.9
10	IUD	8	1.7
10	Colpo	8	1.7
Total for the top 11		<u>408</u>	<u>88.5</u>

*Total Useable Observations

461

*The clinic surveyed a total of 504 patients, the total number of observations listed under complaints and diagnoses refers to the number of useable/identifiable entries for those categories.

SAMPLE SIZE CONSIDERATION

APPENDIX J

SAMPLE SIZE CONSIDERATION

This is a brief discussion of sample size considerations:

The population size is the number of items which are the subject of the study. If the population to be studied are those patients who are treated in the emergency treatment room in 1981, that number may well be 50,000. Conversely, an audit of gunshot patients seen in the same clinic may represent only twenty incidents. If the population is small a complete audit of all encounters may be possible and that audit will be very accurate. It is more likely that the audit will be on a large population, and therefore sampling techniques are necessary.

If a sample needs to be taken of the population there are certain principles that must be observed. Randomness of the sample is the key to arriving at a true picture of the population. Two conditions must be met to achieve randomness: (i) all observations must come from the same population, and (2) the sample observations must be statistically independent.

The first condition is met by adhering to the criteria discussed earlier regarding clear identification of the subject of study. The independence of the observation is based upon the point that the observations should stand alone and their selections should not change the value of other possible observations.

The problem of randomness needs to be discussed further. If the sample is to be a valid reflection of the population an idea of what the population looks like is necessary. The sample should be comprised of all elements of the population or at least all elements of the population must have an equally likely possibility of being selected. Elements of the population may be excluded from the sample for seemingly obvious reasons in retrospect. If "stat lab test" is to be sampled, the sample should provide the opportunity for all requestors of "stat lab test" to be included. Limiting the time frame for data collection so that certain activities will

be excluded will taint the results. If the data collection is conducted on Tuesday and several clinics do not operate on Tuesdays, then those clinics will not have the opportunity to be represented. In determining the data collection scheme the individual conducting the study should be cognizant of the potential of excluding population data.

Following the evaluation of how the sample is to be done to insure randomness and independence, the size of the sample needs to be determined. Sample size is dependent upon the cost of the sampling, the timeliness of the sample, and the accuracy desired. Cost is significant in any sample; the time and effort required to collect the sample information should be reviewed before undertaking a quality assurance study. A very short sample collection period will reduce the size of the sample. The desired accuracy of the final result must be taken into consideration.

The results of sample generally become more accurate as the size of the sample increases. Of course, as the size of the sample increases the cost of the study increases and the timeliness of the study decreases. The decision on which of these three factors is the most important is solely that of the individual who will have to make decisions based on the results. There is no magic number which an individual can point to and say that is the minimum acceptable sample size. The central limit theorem stipulates that with a large n (sample size of 30 or greater) the theoretical sampling distribution of \bar{X} (mean or average) can be approximated by the normal curve.¹⁸ This theorem is the basis for many statistical tests and therefore the number 30 is a valid milestone if the individual conducting the study plans to use statistical tests based on the central limit theorem.

The vast array of other statistical tests which can be used in evaluating study results are not based on the "large n " of the central limit theorem. To use 30 as a guide may result in incomplete data for other tests of significance. To circumvent

the possibility of either having too much or too little data the literature should be consulted prior to data collection to ascertain what sample size would provide adequate information for the statistical test to be used.

DESCRIPTIVE STATISTICS

APPENDIX K

DESCRIPTIVE STATISTICS

The occasion may arise that a study concerned with "discovery" is to be instituted. Discovery is useful in describing a situation for which a performance objective is not established. For example, the Chief, Professional Services may be interested in the number of times a patient receives a busy signal when attempting to call for a medical appointment. The obvious method to obtain an approximation of this problem is to conduct a data gathering experiment which will consist of n elements which will together comprise the sample. The elements discussed earlier regarding factors which should be considered in sampling apply i.e., timeliness, cost, precision, randomness, and independence. The outcome of the sample should provide a minimum of the following elements:

x = Value of the measurement in the sample (unsuccessful number of phone attempts)

n = The sample size

\bar{x} = The sample mean (arithmetic average)

S^2 = The sample variance

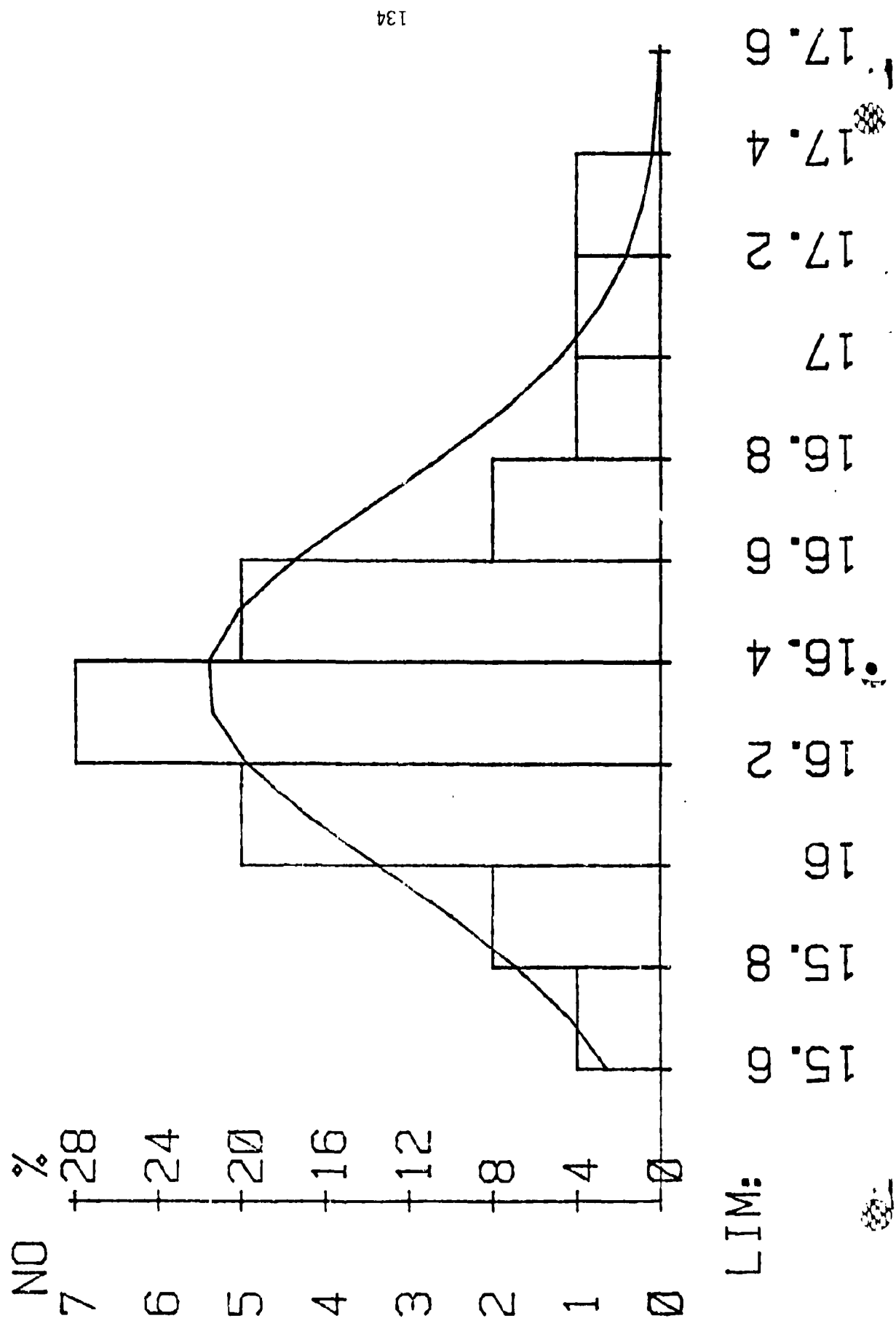
s = The standard deviation of sample

mode = The most common value in the sample

R = Range of values

median = The middle value or the average of the two middle values if an even number of values in the range

In addition to the above data the sample results should contain a graphic representation of a frequency polygon (next page). This graphic presentation enables the observer to judge the symmetry and/or skewness of the sample. This visual presentation alleviates a great deal of narrative description as the picture speaks for itself.



The actual calculation of the statistics of a sample and the construction of the visual presentation of the data was performed by a Hewlett-Packard minicomputer.

Subsequent to data collection, computation of the statistics, and visual presentation, evaluation of the sample results can be undertaken. The sample results may reveal what is perceived as a problem or the results may be favorably received and the process is ended. If the results indicate a problem then the data becomes the baseline data for evaluating the effectiveness of follow-up actions. The follow-up hypothesis can either be based on the initial results or another objective. For example if an average (\bar{X}) of 3 unsuccessful attempts to reach the appointment clerk preceded the actual telephone discussion that statistic (\bar{X}) or a lower one, 2 attempts could be the hypothesized value.

$$\begin{array}{l} H_0: \mu \geq 3 \text{ unsuccessful attempts} \\ H_A: \mu < 3 \text{ unsuccessful attempts} \end{array} \quad \text{or} \quad \begin{array}{l} H_0: \mu \geq 2 \text{ unsuccessful attempts} \\ H_A: \mu < 2 \text{ unsuccessful attempts} \end{array}$$

The sample is extremely useful in developing a basis for decision making and subsequent evaluation of follow-up action effectiveness.

HYPOTHESIS TESTING
(LARGE SAMPLE)

APPENDIX L

HYPOTHESIS TESTING

(LARGE SAMPLE)

Hypothesis testing is applicable to studies which have a predetermined compliance level which will be used to judge performance based on clinically sound criteria. For example, the pathologists are concerned whether "stat" tests are actually being evaluated by the staff appropriately. The sole criteria for evaluating the situation might be "annotation in medical records of test results within 24 hours of completion of test." In order to test this criteria, a number of decisions need to be made:

1. Determine an acceptable compliance rate. In many areas a goal of 100% is mandated. In this example 90% will be used.
2. Establish a level of confidence. This is the probability of being correct. In this example the pathologist desired a 95% probability of being correct.
3. Develop the hypothesis and define the terms. The expression of the hypothesis in statistical notation is not necessary but is helpful for convenience. To be able to use notation, a legend of symbols to be used is included.

P = The population portion

n = The sample size

x = The number of samples which fulfill the criteria

p = The sample proportion, the estimate of P

σ_p = The standard error of the sampling distribution of the sample
proportion

H_0 = The null hypothesis

H_A = The alternate hypothesis

P_0 = A number representing a hypothesized value of the population

α = Level of significance, 1 - (level of confidence)

E = Maximum tolerable difference or error between the population portion and the sample estimate

Z_{α} = The standardized normal variate use in a one-tail

CV = The critical value

$Z_{\alpha/2}$ = The standardized normal variate use in a two-tail test.

Not all the values for the symbol shown above have been computed as of yet. At this point the hypothesis can be developed.

$H_0: P_{.90}$ = (the population proportion complying with the criteria is equal to or greater than 90%)

$H_A: P_{.90}$ = (The alternative hypothesis is that the compliance rate is less than 90%)

$\alpha = .05$ = (95% probability of being correct)

$Z_{\alpha} = 1.65$ = Standard normal value of $\alpha = .05$ in a one tail test of significance (Z value)

4. Determine the sample size. Several decisions need to be made in estimating the sample size.

a. Determine the maximum percentage of error in estimating the portion of the population which is fulfilling the criteria. The pathologist wants the estimate of the population portion not to differ from the actual population portion by more than .05 (5%).

b. Compute the sample size. One last decision has to be made prior to computing an estimate of what the portion of compliance is. Despite the incongruency since the purpose of the audit is to determine the portion, some value

must be assigned. An estimate of 50% will result in the largest sample size estimate, deviation either side of 50% will decrease the sample size estimate. A small pilot audit might suggest a figure of 70% or the pathologist may just have an intuitive estimate. If in retrospect the sample size was too small the preciseness of the estimate will suffer. Similarly, if the sample size is actually greater than necessary the precision of the estimate will increase. In this example a pilot study suggests that a compliance rate is approximately 80%. The following information is now available.

$E = .05$ Maximum difference or error between the population portion of compliance and the sample estimate.

$P = .80$ Estimate of actual compliance based on pathologist's estimate

$\alpha = .05$ Level of significance

$Z_{\alpha} = 1.65$ Z value

To compute the sample size estimate the following formula is used:

$$n = P(1-P) \left(\frac{Z_{\alpha}}{E} \right)^2 = .80(.20) (1.65/.05)^2$$

$$.80(.20)(33)^2 = .80(217.8) = 174.2 \text{ or}$$

175, always round up

5. Conduct the audit and record results. The number of charts which fulfill the audit criteria x is divided by the number of records audited, n or sample size, to arrive at p , the sample proportion or estimate of P . Continuing this example 180 records were audited, $n = 180$, and 150 met the criteria, $x = 150$. The calculation of the sample portion is:

$$p = x/n = 150/180 = .833$$

6. Test the hypothesis. The test of the hypothesis involves the following information:

$n=180, \alpha=.05, x=150, P_0=.90, Z_\alpha=1.65,$
 $CV=\text{unkown}, p=\text{unkown}.$

$H_0: P \geq .90 \quad H_A: P < .90$

The criteria value represents the decision point in the hypothesis test. The critical value is a combination of the hypothesis value of the population with an adjustment which is the standard error of the sampling distribution. The result is a value below which the null hypothesis can be rejected. The calculating formula for

σ_p is:

$$\begin{aligned} \sigma_p &= \sqrt{\frac{P_0(1-P_0)}{n}} = \sqrt{\frac{.90(1-.90)}{180}} = \\ &= \sqrt{\frac{.09}{180}} = \sqrt{.0005} = (.0223607) \end{aligned}$$

$$\begin{aligned} \text{The critical value (CV)} &= P_0 - Z_\alpha \sigma_p = \\ &= .90 - 1.65(.0223607) = \\ &= .90 - .037 = \\ &= .863 \end{aligned}$$

Decision rule:

ACCEPT $H_0: p \geq .863$

REJECT $H_A: p < .863$

The value of $p = .83$ (i.e., $p = \frac{150}{180}$) therefore the null hypothesis is rejected and the alternate hypothesis is accepted. Referring back to the development of the criteria for the study it can be concluded that "stat" test results are not annotated in the medical record within 24 hours. Before concluding the pathologists may want to check the possible error in estimating the population portion based on the sample size and portions. This relates back to the sample size estimate formula,

$$n = P(1-P) (Z_\alpha / E)^2$$

That formula can be manipulated to solve for E,

$$E = Z \sqrt{\frac{P(1-P)}{n}}$$

Based on the survey results the value of E is:

$$E = 1.65 \sqrt{\frac{.83(1-.83)}{180}} =$$

$$1.65(.027998) = .046$$

The final value of E (.046) is less than the value stipulated earlier in the problem (.05) therefore the sample size estimate was adequate.

ANALYSIS OF VARIANCE

APPENDIX M

ANALYSIS OF VARIANCE

The analysis of variance test is useful in evaluating the effectiveness of quality assurance follow-up actions. The analysis of variance test enables the individual conducting a study to evaluate the effectiveness by comparing the compliance rates for the various criteria in two random samples by comparing the sample variances. An explanation of the reasons why an evaluation of sample variance can be used to determine whether the compliance rates are equal or statistically different is again best left to the statistics textbooks.

An example of the analysis of variance test will be demonstrated via the audit data included in the corneal abrasion audits (Appendix D and E). The criteria for the audit was developed (Appendix D), and an initial audit of 32 records revealed the following non-compliance rates:

Criteria:

	Initial	Follow-up
a. No mechanism of injury noted	12.5%	10.5%
b. No subjective systems listed	40.6%	36.8%
c. No visual activity noted	21.8%	36.8%
d. No fluorescein test cited	46.8%	36.8%
e. No eye inspection noted	0%	0%
f. Diagnosis not given as "corneal abrasion"	9.3%	10.5%
g. Treatment plan did not list topical antibiotic	65.6%	21.0%
h. Treatment plan did not list pressure patch	50.0%	36.8%
i. Follow-up did not specify return visit within 24 - 48 hours	34.3%	0%

The results of the study prompted actions to educate the emergency room staff on the criteria which would be the yardstick for further evaluation. The effectiveness of the follow-up actions was measured by an audit of 19 charts using the same criteria and the results are listed in the follow-up heading above. Taking into account the negative approach of the audit and the measurement of non-compliance rather than compliance, the follow-up figures reflect a general overall improvement in care. The question is whether it is statistically significant. The analysis of variance test provides the framework for determining whether the improvement is based on an actual increase in the performance of the emergency room staff or if the improvement can be attributed to chance.

To illustrate the analysis of variance test, the data for the corneal abrasion test was fed into the hospital's minicomputer. The calculations involved in performing this test are tedious and best left to a computer. The printout (next page) provides a number of key values for the individual who conducts the study to review. The top array of data listed as treatment #1 and #2 is merely the non-compliance rates for the initial (treatment) and the follow-up (treatment 2) audits. Next, the computer calculated the mean (average) non-compliance rates for treatment 1 and 2. The variance, i.e., 471.1536 and 262.6319 respectively is the sum of all the (observed values - mean)². The initial study had a non-compliance rate of 31.2111% and the follow-up audits non-compliance rate was 21.22%. The decrease in noncompliance (10%) is sizeable but the key to determining if this reduction was statistically significant is the F statistic. In this example the F statistic is 1.2733. If the auditor wants to be 95% confident that the difference in

the mean values of the sample results is not due to chance, a critical value of the F statistic, in this case of 1 degree of freedom in the numerator (DF NUM) and 16 degrees of freedom in the denominator (DF DEN), the critical value, 4.49, can be extracted from any statistics textbook. The calculated F statistic 1.2733 is less than F critical, 4.49, therefore the auditor is not able to state that the differences in the non-compliance rates are different and be 95% confident of being correct. The printout shows the level of significance associated with an F statistic of 1.2733. By subtracting the level of significance from 1, the level of confidence is revealed ($1 - .2758 = .7242$). In any statement regarding the difference between the non-compliance rates the auditor could only be 72.4% certain the difference was due to actual changes in the staff's compliance with the audit criteria.

The analysis of variation test appears to be extremely complicated at first glance but with the aid of the computer the clinician has a powerful analytic tool at his disposal. The F statistic is the key to evaluating the test results and the Hewitt-Packard minicomputer automatically calculates not only the F statistic but also the level of significance for the test. By subtracting the level of significance from 1, the clinician has the level of confidence which the results represent. The determination of what level of significance is necessary to demonstrate a real change depends on the level of risk the individual conducting the study is willing to take in accepting the results.

APPENDIX N
CHI SQUARED TEST

CHI-SQUARE "E" EXPECTED VALUES

K= 6

I	OBSERVED FREQUENCY	EXPECTED FREQUENCY
1	25.00	20.00
2	17.00	20.00
3	15.00	20.00
4	23.00	20.00
5	24.00	20.00
6	16.00	20.00

CHI-SQUARE= 5.0000

K= 6

DF= 5

PROB CHI-SQUARE > 5.0000

= .4159

CHI-SQUARE "N" EXPECTED VALUES

I	O(I)	E(I)
1	8.0000	9.6000
2	50.0000	46.7500
3	47.0000	51.8500
4	56.0000	54.4000
5	5.0000	8.2500
6	14.0000	9.1500

K= 6

I	OBSERVED FREQUENCY	EXPECTED FREQUENCY
1	8.00	9.60
2	50.00	46.75
3	47.00	51.85
4	56.00	54.40
5	5.00	8.25
6	14.00	9.15

CHI-SQUARE= 4.8444

K= 6

DF= 5

PROB CHI-SQUARE > 4.8444

= .4352

APPENDIX O
REGRESSION ANALYSIS
PATIENT SATISFACTION SURVEY

Linear Regression Analysis
Outpatient Satisfaction Survey by
Clinic

I	X(I)	Y(I)
1	2.7700	19491.0000
2	2.6900	16559.0000
3	3.0000	3557.0000
4	2.5000	6902.0000
5	2.6300	10853.0000
6	2.4400	12215.0000
7	2.8300	6082.0000
8	2.9600	6405.0000
9	2.7800	22157.0000
10	2.6700	15132.0000
11	2.4200	34950.0000
12	2.6500	1303.0000
13	2.7900	6351.0000
14	2.3300	29695.0000
15	2.9300	4772.0000
16	2.9500	2967.0000
17	2.6900	46282.0000
18	2.3300	34964.0000
19	2.6700	12654.0000
20	2.6900	44400.0000
21	2.7500	9772.0000
22	2.9300	5745.0000
23	2.7000	28994.0000

X=Outpatient satisfaction rating as
determined via a survey.
Y=Total annual outpatient visits

MAXIMUM DEGREE REGRESSION= 1

ADV: LINEAR REG: CODE 1

SOURCE/DF	SS	MS	F
TOTAL 22.			
REG 1.	.		7.7
RESID 21.	.		
R SQUARE =	0.267		

YHAT =114115.773+-36110.480

$$F_{\text{critical}} = F(1, 21, 0.05) = 4.32$$

$$F_{7.7} > F_c 4.32$$

QA STUDY DEVELOPMENT FORMAT

APPENDIX P

QA STUDY DEVELOPMENT FORMAT

The twelve steps listed below were developed by the author as a guide to insure completeness of a QA study.

Steps:

1. Determine the procedure to be audited. This selection process can be based on cost, sudden increase in number of tests performed, possible delirious patient effects, identification of problems involved with the procedure by hospital staff or patients, or any other problem identification process.
2. Establishment of audit criteria. The criteria should be explicit and thoroughly understood by those who will conduct the audit. The criteria should be acceptable to the staff who order the procedure.
3. Determine the compliance level which will be standard for evaluating the audit results. The establishment of a compliance of 100% will almost assure an unfavorable outcome, if a compliance rate of 90% or 85% is acceptable, consideration should be given to setting a standard less than 100%.
4. Select the statistical test which will allow a valid conclusion to be drawn on whether the audit results meet the compliance goal. A more complete discussion on selection of a statistical test is in the next chapter.
5. Determine the sample size which is necessary to gather sufficient data to conduct the statistical test. A reminder that if records must be retrieved from the outpatient records area, double the number of records requests due to the previously mentioned retrieval problems.
6. Identify the records to be audited. The laboratory and radiology copies of test results provide the key to identification of the patients to be audited. For pharmacy the prescription form also provides the same information. In selecting the records to be audited, the randomness of the selection process must be insured.

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The outpatient record branch must have both the patient's name and social security number to be able to locate the record.

7. Conduct the audit. The actual performance must be measured against the criteria and recorded on a worksheet. Confidentiality of the patient and the provider must be insured. This can be accomplished by using a code to identify the provider, assigning numbers is acceptable. The last four numbers of the patient's social security number is adequate identification of the patient. A key which lists the patients' names and social security numbers, as well as the provider and his code number should be safeguarded by the official conducting the audit. An example of a worksheet is in the following chapter.

8. Perform the statistical test. The statistical test will provide a statistical basis for evaluating the actual clinical practice of the population of interest as measured against the criteria.

9. Draw conclusions based on the statistical results. If the results are obvious, either good or bad, the conclusions can be drawn quickly. The results may not be clear. A judgement of whether the statistical significance/insignificance also represents practical significance/insignificance will have to be made by the individual reviewing the results. A statistical significant result may not present a problem in the practical sense. The conclusion should address both the statistical and practical significance of the findings.

10. Develop recommendations. If the findings indicate problems, recommendations for resolution of those problems need to be developed. If the actions to correct the problems are outside the department then the individuals who do have the authority must be notified.

11. Establish follow-up studies. The process of quality assurance is not complete until the problem is corrected. To insure compliance, follow-up studies are required. The frequency of follow-up is dependent on the nature of the problem. If

actions to correct the problem can be taken quickly then the follow-up study may be scheduled shortly after the initial study. Whatever the situation, the follow-up study has to be done to validate the efficiency of the remedial actions. Some problems may require constant monitoring; the emergency room has a constant flow of providers and therefore to assume that a problem is resolved based on one satisfactory follow-up audit may not be valid in the long run.

12. Submit the study to the quality assurance committee. The complete audit should be forwarded to the hospital quality assurance committee to insure that the flow of information is maintained.

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